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rug Product Selection — Not If — But How, When and Why

–*Ralph F. Shangraw, Ph.D.*

oison Prevention Week materials available

edicaid fraud abuse units gear up

THE MARYLAND PHARMACIST

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President's Message

"Apathy" — the Epitaph of Pharmacy?

It seems that pharmacists never really get concerned about a threatening situation until that situation is well out of hand and disaster is imminent. Over and over we see important meetings scheduled and then watch the poor attendance. We hear the call for membership in Associations and then lament the limited response. We announce a fund raising campaign for a worthwhile cause and are met with little result.

It occurs to me that the lack of participation in the general affairs of pharmacy is evidence of a "let the other guy do it" syndrome. The only trouble is that there are fewer and fewer of us "other guys" around today. After investing the time, effort and money necessary to acquire the education and experience to make a living from the practice of pharmacy, you would think pharmacists would be willing to invest a little more time, effort and money as insurance that the ship of pharmacy will stay afloat. Indications are that staying alfoat might not be as easy in the immediate future as some would have us believe.

Think about it. What have you done today about your professional future? Ask a non-member to join the Association. Attend the meetings where important decisions are being made that directly affect you and supply vital input into those decisions. Respond to the call for funds when asked. It is the best involvement you can make.

Drug Product Selection — Not If — But How, When and Why

Ralph F. Shangraw, Ph.D.
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Department of Pharmacy
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For many years pharmacists have been talking about Drug Product Selection, some with hopeful anticipation, some with fear and trepidation. However, until very recently it was a professional function that could be avoided, either because the law did not allow it or physicians did not approve of it, or patients did not demand it. I think it can be agreed that times have changed and while none of the above restrictions are totally removed, they have been sufficiently modified so that the pharmacist, even if he wants to, can no longer ignore the responsibility to deal forthrightly with the issue.

A little over 12 years ago, I presented a talk to the BMPA about the pharmacist's responsibility in drug product selection. The thrust of my presentation at that time was that an increasing number of drugs were coming off of patent and that the number of prescriptions written generically was also on the increase.

Because when prescriptions are written generically the pharmacist has the full responsibility for product selection — it thus behooves the pharmacist to prepare for this responsibility and understand how to determine or assure product quality instead of following the premise that only the originator's product brand was acceptable. This was long before the repeal of antisubstitution laws and in the infancy of biopharmaceutics and good manufacturing practice regulations.

The situation today has many parallels except that the magnitude of the task is much greater. For today in the State of Maryland, the pharmacist has the potential ability to select the drug product to be dispensed on all multisource drugs except those specifically prohibited or restricted in the Maryland State Formulary.

Fortunately our knowledge base in the past ten years has increased dramatically and government regulations covering drug research, production and marketing have dramatically improved the quality of drug products in the United States, thus reducing the risk associated with product selection.

For instance

1. Clinical testing for efficacy as well as safety has been instituted for all drugs introduced since 1962.
2. All new drugs introduced into the marketplace from 1938-62 have been reviewed for efficacy.
3. Elaborate regulations have been drawn up and implemented covering the good manufacturing practices of all prescription drugs by all pharmaceutical companies.
4. The science of biopharmaceutics and bioavailability have been developed to a high degree of sophistication.

However, all risks in drug product selection have not been removed and probably never will be. The fact remains that pharmacists must deal with drug product selection *now* with whatever knowledge and skills they have available *now*. The purpose of this presentation is to assist the pharmacist in assuming this responsibility.

Why Drug Product Selection Now?

Before proceeding further, I would like to pose three questions which I think will properly set the stage for my presentation.

1. Is drug product selection really here to stay?
2. Must the average pharmacist become involved in drug product selection?
3. Is there added professional risk?

The answer to all of these questions is yes.

Drug product selection is certainly a concept which is now a reality. There will be a continuing delaying action by industry and some physicians, but the corner has been turned. It certainly appears that within five years the practice will be so commonplace that we will be looking back wondering what all the furor was about. The pharmaceutical industry knows this and although they continue to fight a delaying action — the major companies are ready and willing to adapt themselves to the change. Although a few so called generic houses will grow and stay competitive the major so-called brand name companies who control the brand name drug market today will control the vast share of the generic market tomorrow.

In addition, it seems quite clear to me that no pharmacist can avoid being involved in the product selection process. Hospital pharmacists have done it for years, with a lot less knowledge than is available today. Chain pharmacists are going to be involved because every major chain in Maryland is committed to drug product selection in one form or another, and the independent must involve himself in the process if he is to survive. It has been shown that in some states where substitution has been approved, pharmacists have been slow in utilizing their newly legislated right. Unfortunately, repeal of antisubstitution laws and replacement legislation is no longer in the hands of pharmacists in many states, but is in the hands of consumer activists. This means that if pharmacists do not accept and implement the right they have been given, more restrictive legislation such as that passed in New York requiring that pharmacists must substitute the least expensive product they have in stock will be passed.

History of Antisubstitution Laws

Sometimes, I think pharmacists forget where the Antisubstitution laws came from. Many think that they were imposed upon them by a frightened public or a concerned medical community. That is nonsense. Pharmacists and in particular State Boards of Pharmacy are responsible for the passage of Antisubstitution laws because they were concerned and rightfully so over the quality of drug products on the market and the introduction of counterfeit drugs by unscrupulous operators. They passed the laws with the strong backing and sometimes coercion of the pharmaceutical industry not fully realizing that the industry in turn would subsequently use the laws to their own advantage and to the detriment of the profession of pharmacy. There is no question in my mind, however, that at the time they were passed in the late 1940's and early 1950's, that they were in the best interest of the public.

Through the years the protection afforded to the industry by the Antisubstitution laws gradually led to abuses. High pressure sales forces were developed to promote prescription writing by brand name only. Prices on brand name products often remained high even after patent protection expired because there was little or no competition. Physicians and pharmacists alike were indoctrinated with the dogma that only brand name products were reliable. Product duplication and proliferation became rampant. Major companies began distributing products made by so called generic houses. Coincidentally with these developments, the quality of products was significantly improving and counterfeiting of drug products had all but disappeared. More recently the science of bioavailability provided for the first time a mechanism by which brand name superiority could be substantiated or disproven.

Pharmacy and the consuming public found themselves saddled with an antiquated law which acted to the detriment of both. The fact of the matter is that pharmacists created antisubstitution laws and they should not be afraid to destroy them, if in fact, they have outlived their usefulness. And most people agree today that they have outlived their usefulness. Over 25 states have repealed or amended antisubstitution laws in one way or another.

Risk to Pharmacist

Is there an added risk to the pharmacist in drug product selection? Of course there is, but this risk is not nearly as great as the opponents of product selection would like you to believe. Any decision making involves risks but without decision making you have no profession. The object is to reduce the risks to a minimum while at the same time taking full advantage of the decision making role.

In order to be held liable in a case where a pharmacist dispenses a product (brand or generic) other than the brand prescribed, it would be necessary to show that the dispensed product was sufficiently sub-potent, super potent or defective to cause a therapeutic failure or toxicity which would not have occurred if the original brand name product had been dispensed. This could only occur if the substituted product was grossly defective. I know of no known cases up to this time in which such a failure or toxicity has been proven in court.

FACTORS TO BE CONSIDERED IN CHOOSING SOURCE OF DRUG PRODUCTS TO BE DISPENSED UNDER MARYLAND SUBSTITUTION LAW

by
Mel Rubin and Ralph Shangraw

1. **Quality of Product:**
    a. Potential for bioinequivalence
    b. Availability of data on which to make decisions
    c. Observable evidence of quality of product, packaging and labeling (see General Rules for Evaluating Drug Products)
2. **Policies of Manufacturer:**
    a. Liability insurance
    b. Availability of personal representative of company
    c. Response to telephone contact for information
    d. Speed of compliance with new government regulations such as PPI's
3. **Shipping:**
    a. Length of time to receive order
    b. Response to emergency phone orders
    c. Packaging of shipped merchandise
4. **Billing Procedures:**
    a. Payment in advance i.e., COD, 10 day payment
    b. Open accounts
    c. Ease of checking orders
    d. Quality of invoices
5. **Return Goods Policies:**
    a. Acceptance of return goods
    b. Shipping costs of return goods
    c. Fair and prompt credits for return goods
6. **Professional Involvement:**
    Do companies provide other services which improve my practice
    a. Continuing Education
    b. Books
    Are companies active in and support local professional associations and meetings?

Factors Determining Drug Product Quality

The question arises as to how one drug product can be different from another drug product. Simplistically they can vary in two basic ways:

1. *Bioavailability* — which relates to the ability of one drug product to release a different amount of a drug or to release a drug at a different rate than another drug product containing the same active ingredient. In this case, the right drug is present in the right amount in the tablet or capsule, etc., but due to some formulation failure the two drug products are not therapeutically equivalent.

The area of bioavailability has received the most attention in recent years as the cause of drug product inequivalence. In fact, the drugs listed on the Maryland Formulary for which interchange is restricted, were selected because of the identification of real or potential bioavailability problems in the literature or in practice. However, bioavailability is a definable problem. As drugs with bioavailability problems are identified, solutions to the problems through manufacturing specifications or performance standards, are found. Drugs like chloramphenicol, tetracycline and digoxin bear evidence to this conclusion. It is only a question of time before the drugs are all identified and bioavailability problems solved.

2. *Manufacturing or Quality Control* — relates to failures due to poor manufacturing practices. In this case, the right amount of the right drug is not present in the dosage form or the product has been contaminated or mislabeled.

It is my personal belief that it is in the area of manufacturing defects that we are most likely to observe products which exhibit therapeutic failures or toxicities. In spite of good manufacturing practice regulations, pharmaceutical plant inspections and product surveillance by the FDA, in-house quality control procedures and drug defect reporting systems, it is not possible to achieve zero defects. There is always a chance for human error and there will always be some unscrupulous manufacturer who will operate on the fringe of the law.

The fact of the matter is that the quality of all drug products in this country has never been better and it is the best that there is in the entire world.

Selection of Drugs for Maryland Formulary

It is important to take a few minutes to discuss the role of bioavailability in determining the list of drugs found in the Maryland Formulary for which interchange of products is restricted or prohibited. In 1974, after much debate and a review of all drugs on the market, the FDA published a list of *Drugs Presenting Actual or Potential Bioavailability Problems*. This includes the names of 174 drugs in one or more dosage forms of which 62 were drugs available from multiple suppliers. The original intent of this list was to place the industry on notice that these drugs in the prescribed dosage form(s) would require in-vivo or in-vitro testing to document bioequivalence before they could be marketed. The FDA planned to eventually provide guidelines for such testing using the innovator's product as the standard. Studies would include in-vivo tests such as demonstration of equivalent blood level profiles or in-vitro testing such as demonstration of equivalent dissolution rates.

However, once this list of drugs was published, it was interpreted by some state agencies, individual pharmacists and physicians, and by some consumer groups as a final official list of drug products in which interchange of brands should be prohibited. The FDA as well as the APhA felt that this approach was an overreaction because in fact many of these products were interchangeable and almost all manufacturers held New Drug Applications or Abbreviated New Drug Applications for these drugs. Thus, the FDA published a list of all manufacturers who did hold NDA's or ANDA's for all of the drugs appearing on the original bioinequivalence list. This list, printed with a blue cover, has come to be called the Blue Book List. In a similar manner, this list was also misrepresented by interested parties including the APhA, in that even though the companies listed held NDA's or ANDA's, the fact is that some of these applications were approved before bioavailability or bioequivalence data was requested by the FDA. This is the background against which the Maryland State Formulary Committee began its deliberations to implement House Bill 667 which was passed by the Maryland Legislature in the Spring of 1977.

The basic provisions of House Bill 667 are listed below:

1. Pharmacists may substitute generically equivalent drug products (must be lower cost and must pass on savings to consumer).
2. Provision does not apply if the physician expressly indicates on the Rx that it is to be dispensed as written.
3. Pharmacist must notify patient in writing.

GENERAL RULES
FOR THE EVALUATION OF DRUG PRODUCTS
BY PHARMACISTS

1. **Demand to know from the distributor of the product:**
   a. Name of manufacturer
   b. Assurance of quality demanded by distributor
   c. Risk that successive products will be supplied by another manufacturer
2. **Investigate all suppliers as to activities, policies, services, quality control operations and procedures. Compare this data with other pharmacists who have similar purchasing policies (see examples of types of information).**
   1. Methods of testing and allowable limits for:
      a. potency
      b. weight variation, hardness, disintegration time, dissolution rate of tablets
      c. stability testing
      d. microbial contamination
   2. Assay results from last ten consecutive batches for the above tests
   3. Description of dissolution studies on finished dosage form or other tests correlating with biological availability. Indication of batch to batch variation and the effects of aging.
   4. Studies which substantiate clinical effectiveness of product and/or indicate blood levels achieved. Experimental designs, parameters measured (onset, peak and length of action).
   5. Any pertinent data which would indicate that the company's product is clinically superior to or equivalent to other products available commercially.
   6. Statement as to voluntary or involuntary recall of specific drug product during the previous five years and the reasons for such recalls.
   7. Statement as to whether or not a full or abbreviated New Drug Application was submitted on drug product in which proof of clinical efficacy was required.
3. **Keep a record of drug recalls and court actions against the companies manufacturing and distributing your drugs (these are available in the J.A.Ph.A., F.D.A. papers, A.J.H.P.).**
4. **Inspect your drugs for aesthetic and production defects:** For example, tablets could be inspected for the following: a. smooth, no chipped or overturned edges; b. sharp and well-defined grooves or embossing; c. uniformity in color; d. lack of specks and mottling; e. adequate hardness and lack of powder in the bottom of the container; f. reasonable weight variation; g. rapid disintegration times and lack of large particulate residue; h. uniformity of coating; i. quality labeling and package inserts; j. quality containers, light resistant where necessary.
5. **Keep aside small samples of drugs for comparison with subsequent batches. Check stability and batch-to-batch uniformity.**
6. **Return faulty products immediately. Do not compromise with quality.**
7. **Continually consult with both patients and physicians concerning efficacy of drug products particularly when there is any indication that patients have been switched from one drug product to another.**
8. **Utilize information gained by institutions and governmental agencies during their mass purchasing of drugs.**
9. **Inspect local drug suppliers or make arrangements through your association to have pharmacists visit plants in other states.**

GENERAL RULES FOR SELECTING COMPANIES FOR GENERIC DRUG PURCHASING

1. Limit generic purchasing to as few companies as possible.
2. Limit purchasing to those companies who manufacture their own products. If not, limit to companies who do not change suppliers.
3. Do not change source of supply and if purchasing from a distributor, make sure the distributor also maintains a constant source of supply.
4. If purchasing through wholesaler — determine policy of wholesaler in selecting generic lines. Determine liability policy of wholesaler.
5. Exchange information with other pharmacists in both community and hospital pharmacies. Do not purchase from companies which have an above average number of recalls.
6. Do not purchase products from small companies who distribute products only in a local area.
7. Do not do business with a company which has not been in business at least five years.

4. Pharmacist must record on Rx and maintain as a record the name and manufacturer of the product dispensed.
5. Department of Health and Mental Hygiene shall establish a list of drugs for which Drug Product Selection is restricted or prohibited. List will contain those drugs for which there is evidence of actual or potential bioinequivalency of therapeutic significance. Update every six months.

The Department of Health and Mental Hygiene charged the Maryland Formulary Committee with drawing up a list of drugs for which substitution would be restricted or prohibited. The so-called negative formulary approved by the Committee was essentially the list of drugs available from multiple suppliers as presented in the FDA Blue Book publication, with minor amendments. This proposed list was published late in 1977, hearings were held early in 1978 and the final list published and distributed to pharmacists and physicians in April 1979. In addition to the listed drugs, the Maryland Formulary prohibits interchange of any injection, suppository or sustained release products including enteric coated tablets without prior approval of the physician. The important thing to note is that *all other* drugs and drug products are candidates for interchange if they are available from multiple sources.

Because there was and still is controversy over whether or not all of the drugs on the list are truly bioequivalent and on the basis of new information available to the FDA, I have chosen to break down the Maryland list into two categories. List I includes drugs for which bioequivalence data is not presently available because it was not required in NDA's and if recent work has been undertaken, results are not available. I would recommend a conservative approach to this list of drugs and *would not* interchange them. Once a patient has been receiving any product from any of the approved companies listed in the Maryland Formulary, I would not hesitate to continue a patient on this product but I would not substitute another company's product. List number II contains those drugs for which interchange within the approved companies should be implemented. The reasons for including drugs on List II are given in the key. As can be seen, many of these drugs have been cleared of bioavailability problems, subsequent to the compilation of the Maryland Formulary. It is expected that the Maryland Formulary will reflect these changes in the next biyearly revision.

Approaches to Drug Product Selection

Given this background, it is necessary to provide some guidelines for pharmacists in selecting products for interchange. There are three basic approaches to the selection of products for substitution. It should be remembered that the pharmacist has already faced similar choices in the past in those instances where a prescription was written generically or where the patient and physician have both given permission for substitution. Thus, this responsibility is not a completely new one but merely an expansion of responsibilities which already exist.

There are three basic approaches that the pharmacist can take in choosing multi-source products for dispensing. Each has some advantages and disadvantages.

Method I: Use only Branded Generics in filling prescriptions for multi-source drugs. This involves less risk because Branded Generics generally have stronger liability backing than unbranded generics. In addition, they can be purchased through regular wholesalers or directly along with a direct order of other prescription drugs from the same company. It is generally possible by judicious purchasing policy to obtain almost all multi-source drugs from one major manufacturer or another at a lower price than the innovator's product. The disadvantage is that prices may not be as low as would be obtainable by direct purchase from generic manufacturers or distributors and in fact many branded generics are made for the Brand Name Company by so called generic companies.

Method II: Rely on wholesalers line of generics and purchase all such products directly from wholesaler. If this approach is taken, it is important that the pharmacist *demand* from the wholesaler a written statement of their policies in selecting and purchasing generic drugs. Some wholesalers do not take proper precautions in the selection process. Of utmost importance is to determine that the wholesaler does not switch from one generic company to another in purchasing products. Generic drugs purchased through wholesalers may be less expensive than branded generics but the importance of determining the wholesalers policies and assurances of generic product quality and liability protection cannot be overemphasized. The most obvious advantages of purchasing through the wholesalers is convenience and less money tied up in inventory.

Method III: Purchase drugs directly from generic manufacturers or distributors. This is the method which requires the greatest amount of time by the pharmacist in determining the quality of the company and products which are being supplied. However, this approach is certainly practical for large chain pharmacies where purchasing is done centrally and hopefully experienced pharmacists are available to draw up guidelines for selection of generic companies and specifications for individual products. However, this responsibility should not be treated lightly and a commit-

The straighter they talk, the better things get.

Meet our 1978 Pharmacy Consultant Panel.

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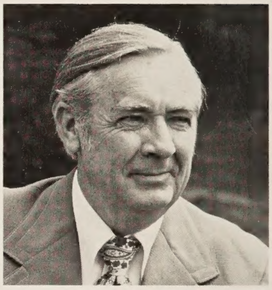
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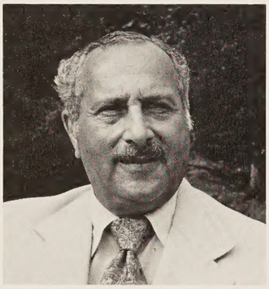
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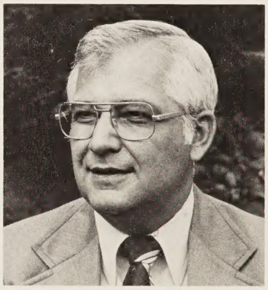
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These days, any company that depends on "yes" men for advice is riding for a fall.

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ment to quality drug purchasing must be made by management. To assist the individual pharmacist in making decisions relative to direct generic drug purchasing, two documents are attached. One is a list of Factors to be Considered in Choosing the Source of Drug Products to be Dispensed Under Maryland Substitution Law. This list was drawn up in cooperation with Mr. Melvin Rubin (past President of the Maryland Pharmaceutical Association) who owns a number of community pharmacies and daily faces this type of decision making in his practice. There are obviously many factors to consider in addition to product quality and price. In many cases when all factors are taken into consideration, the list price is not a realistic one because these other factors add costs in convenience and labor which are not accounted for. In addition to the general factors to consider in choosing a source of supply, I have also attached a list of General Rules for Evaluation of Drug Products by Pharmacists. These detail the type of bioavailability and quality control data which can be used in accessing drug quality. It may not be necessary to gather all the information detailed or to conduct laboratory tests, but the pharmacists must draw up some standard operation procedures to cover manufacture and product selection.

Remember, it is not only possible but necessary for every pharmacist to be involved in drug product selection. It can be done safely and with savings to both the pharmacist and consumer, providing the pharmacist follows the guidelines outlined in this paper. The decision is up to you.

THE PHARMACIST'S RESPONSIBILITY IN DRUG PRODUCT SELECTION BIOEQUIVALENCE UPDATE

On April 13, 1978, the State of Maryland published a Restricted or Prohibited Drug Formulary as required under House Bill 667. Section 273A, Article 43 — Health Annotated Code of Maryland is now replaced by Section 273A.

The Formulary

1. Prohibits the interchange of *all* drugs in the following dosage forms. Injections, Suppositories, Controlled Release including Enteric Coated Tablets.
2. Restricts the interchange of a number of drugs to only those *manufactured* by companies specifically indicated.
3. *Allows for the interchange of all other drugs or drug products (not listed) under the provisions of the act.*

The Maryland Formulary list was based on the best data available from the FDA at the time. Although all of the manufacturers listed in the Maryland Formulary do have approved NDA's or ANDA's, not all of these NDA's or ANDA's provide bioequivalence data. Later data supplied by the FDA and my own reservations would support the following conservative approach to the Maryland Formulary List. In addition to dividing the Maryland Formulary list into a prohibited and restricted list, a third list of questionable products for interchange is supplied. This list is based on data from FDA which was not available to the Maryland Formulary Committee.

LIST I — PROHIBITED LIST

At the present time bioavailability data is not available from any or all of the manufacturers listed. Conservative approach would be *not* to interchange any of the following products. In many cases these drugs are old drugs which were marketed before bioavailability data was required. In all cases, it would be proper to continue the patient on any drug product as long as the desired therapeutic effect is being achieved. However, interchange of products from different manufacturers is *not* recommended.

Alseroxylon Tablets
Aminophylline Tablets
Benzthiazide Tablets
Bishydroxycoumarin Capsules
Cortisone Acetate Tablets
Dexamethasone Tablets
Dienestrol Tablets
Diethylstilbestrol Tablets
Digoxin Tablets*
Digitoxin Tablets*
Dyphylline Tablets
Ethinyl Estradiol Tablets
Gitalin Tablets
Hydrochlorothiazide and Reserpine Tablets
Hydrocortisone Tablets
Lanatoside C Tablets
Methyltestosterone Capsules, Tablets and Sublingual Tablets
Nitrofurantoin Capsules and Tablets
Oxytriphylline Tablets
Phenylbutazone *Capsules*
Phenytoin Sodium Capsules
Probenecid and Colchicine Tablets
Rauwolfia Serpentina Tablets
Rescinnamine Tablets
Reserpine, Hydralazinc and Hydrochlordthiazide Tablets
Theophylline Capsules or Tablets
Theophylline Sodium Clycinate Tablets
Tolbutamide Tablets
Triamcindlone Tablets
Trichlormethiazide Tablets and Reserpine Tablets
Warfarin Potassium Tablets
Warfarin Sodium Tablets

*FDA certification programs and dissolution test standards should assure bioavailability at this time. However, so much has been made of the prior problems with these drugs that interchange is not advised for political and public relations reasons

LIST II — RESTRICTED LIST

Continue To Allow Substitution Within Maryland Formulary
List of Approved Company

Interchange of products within Maryland List of Approved Manufacturers is advised even though not all products have bioavailability data on file in NDA or ANDA. Reason for recommendation is given.

for

Drug	Reason for Listing
Acetazolamide	X
Aminosalicylic Acid Tablets	X
Bendroflumethiazide Tablets (Bristol and Squibb)	A
Calcium Aminosalicylate Tablets	B
Chlordiazepoxide HC1 Capsules	X
Chlorothiazide Tablets	X
Chlorothiazide and Reserprine Tablets (MSD and Bolar)	A
Chlorpromazine HC1 Tablets	C
Dichlorphenamide Tablets (Alcon and MSD)	A
Ethoxzolamide Tablets (Upjohn and Allergan)	A
Fluphenazine HC1 Tablets (Squibb and Schering)	A
Hydralazine and Hydrochlorothiazide Tablets	X
Hydrochlorothiazide Tablets	X
Hydroflumethiazide Tablets (Ayerst and Bristol)	A
Imipramine HC1 Tablets	C
Methaqualone Tablets (Arnar-Stone, Rorer)	A
Paramethasone Acetate Tablets (Lilly and Syntex)	A
Phenytoin Oral Suspension (Abbott and Parke Davis)	A
Potassium Aminosalicylate Powder and Tablets	X
Prednisone	E
Prednisolone	E
Probenecid Tablets	X
Procainamide Hydrochloride Capsules	X
Promethazine HC1 Tablets	C
Propylthiouracil Tablets	D
Quinidine Sulfate Tablets and Capsules	X
Reserpine Tablets	D
Sulfamethoxypyridazine Tablets and Suspension (Lederle and Parke Davis)	A
Sodium Aminosalicylate Powder and Tablets	C
Sulfadiazine Tablets	X
Sulfapyridine Tablets (Lilly and Parke Davis)	A
Sulfasalazine Tablets	B
Sulfisoxazole Tablets and Suspension	X
Trisulfapyrimidines Suspension and Tablets	X

KEY

X — All firms listed have demonstrated bioequivalence to FDA
A — Limited list of manufacturers — in most all cases, companies were involved in development of drug
B — Dose of drug large and not critical
C — Water solubility of drug high enough to make bioavailability problems highly questionable
D — Drug prescribed and written almost solely generically. No significant problems documented
E — New official dissolution tests should assure bioavailability

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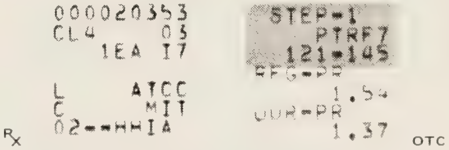

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City ______________ State ________ Zip ______
Phone Area Code (   ) ______________________

NATIONAL

POISON PREVENTION WEEK

March 18-24, 1979

LIST OF MATERIALS 1979

Editor's Note — The MPhA is cooperating with the APhA and the Poison Control Center of the University of Maryland in encouraging pharmacists to participate in the 1979 Poison Prevention Week. Patients will be asking for Syrup of Ipecac. Materials may be used throughout the year.

BROCHURES, FLYERS, AND PAMPHLETS

1. **The Medicines Your Doctor Prescribes — A Guide for Consumers**
   (Tips on how to insure safe, proper use of prescribed medicines. 10 pages.)
   Up to 50 copies free. Additional supplies, $8 per hundred. Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.
2. **First Aid in the Home**
   (Wall chart with first aid measures, plus tips for safe storage and use of medicines in the home.)
   Quantities up to 10 free; larger quantities 10 cents each. Council on Family Health, Dept. P, 633 Third Avenue, New York, N.Y. 10017. (Payment must accompany all orders.)
3. **Poisoning Prevention Tip Sheet**
   (Leaflet, 5½'' x 8½'', listing some common household substances which may be poisonous and pointers for prevention.)
   $3 per hundred. American Academy of Pediatrics, 1801 Hinman Avenue, Evanston, Illinois 60204.
4. **The Care and Safety of Children — by Dr. Jay M. Arena**
   (Discusses the basics of home safety and child care, including tips on poison prevention.)
   Quantities up to 10 free; larger quantities 10 cents each. Council on Family Health, Dept. P, 633 Third Avenue, New York, N.Y. 10017. (Payment must accompany all orders.)
5. **Solid and Liquid Poisons (429.04-21)**
   (A 6-page data sheet containing practical information on poisons in and around the home, pointing out special dangers to children.)
   10-99, 27 cents each; 100-999, 24 cents each; 1000-4999, 23 cents. National Safety Council, 444 N. Michigan Avenue, Chicago, Illinois 60611.
6. **Syrup of Ipecac**
   (5'' x 8'' color illustrated flyer urging parents to keep syrup of ipecac in the home so it is readily available if a physician recommends it be used.)
   Single copy free. Local reproduction authorized. American Association of Poison Control Centers, c/o Academy of Medicine of Cleveland, 10525 Carnegie Avenue, Cleveland, Ohio 44106.
7. **Danger Lurks (OP-304)**
   (Chart for the medicine cabinet. Contains information on what to do in case of accidental poisoning. 8½'' x 16''.)
   Up to 99 copies, 35 cents each; 100-499, 20 cents each; 500-999, 19 cents each; 1000 or more, 18 cents each. American Medical Association, Order Dept., P.O. Box 821, Monroe WI 53566. (Payment must accompany all orders.)
8. **Home Poisons (193.10)**
   (A 4-page 3½'' x 6½'' leaflet containing basic information on steps to take to prevent home poisonings.)
   50-499, 48 cents each; 500-999, 39 cents each; 1000-4999, 32 cents each. National Safety Council, 444 N. Michigan Avenue, Chicago, Illinois 60611.
9. **Medicines and How to Use Them (OP-63)**
   (Explains function and need of doctor's prescription and gives 10 important tips on the safe way to take medicine. 6 pages, 3¾'' x 8½''.)
   Up to 99 copies, 25 cents each; 100-499, 17 cents each; 500 or more, 16 cents each. American Medical Association, Order Dept., P.O. Box 821, Monroe, WI 53566. (Payment must accompany all orders.)
10. **First Aid Manual (OP-15)**
    (A guide for first aid in the home. 46 pages, 4'' x 7''.)
    Up to 99 copies, 50 cents each; 100-499, 35 cents each; 500 or more, 24 cents each. American Medical Association, Order Dept., P.O. Box 821, Monroe, WI 53566. (Payment must accompany all orders.)
11. **First Aid Treatment for Poisoning**
    (8½'' x 14½'' foldout; for swallowed poisons, fumes or gases; poison in eye, on skin; snake, insect, and animal bites.)
    1-5 copies, 75 cents each (minimum order: $1); 6-49, 50 cents; 50-99, 30 cents. American Academy of Pediatrics, 1801 Hinman Avenue, Evanston, Illinois 60204.
12. **Dennis the Menace Takes a Poke at Poison**
    (A cartoon-illustrated book for parents or teachers to use in educating youngsters under the age of 5 years.)
    Limited quantities available from U.S. Food and Drug Administration, 5401 Westbard Ave., Bethesda, Md. 20207; Attn: NCPCC.
13. **Disposing of Pesticide Containers**
    (Discusses different kinds of containers and how to handle them in the safest way to avoid hazards. Also shows how to get the use of all the material in a bottle or can through a simple rinsing procedure.)
    Free. Safety Division, National Agricultural Chemicals Association, 1155 15th Street, N.W., Washington, D.C. 20005.
14. **First Aid for Poisoning**
    (A 5'' x 8'' card on first aid instructions for poisoning emergencies.)
    Available through the courtesy of Plough, Inc. Quantities up to 200, free. For larger quantities, a copy suitable for local printing available free. American Association of Poison Control Centers, c/o Academy of Medicine of Cleveland, 10525 Carnegie Avenue, Cleveland, Ohio 44106.
15. **Poison Prevention Program Kit (599.73)**
    (Basic materials for a complete community-wide poison prevention program. Includes publicity materials, group project ideas, data sheets, reprints, posters, leaflets, etc.)
    1-9, $1.74 each; 10-99, $1.62 each. National Safety Council, 444 N. Michigan Avenue, Chicago, Illinois 60611.
16. **Safety at Home with Pesticides**
    *(Explains the need for a safety program for pesticide use around the home. Contains suggestions for development of local safety

efforts to encourage safe use and storage of such materials. 8 pages.)

Up to 50 copies free. Safety Division, National Agricultural Chemicals Association, 1155 15th Street, N.W., Washington, D.C. 20005.

17. **You and Your Health**
(12 articles by leading health authorities on major health topics, including accidental poisoning, with a tear-out home Emergency Reference Chart.)
Quantities up to 10 free; larger quantities 10 cents each. Council on Family Health, Dept. P, 633 Third Avenue, New York, N.Y. 10017. (Payment must accompany all orders.)

18. **Safe Use of Aerosols Around the Home**
(Instructs the reader on proper use and storage of these products. Shows how an aerosol product works and helps families understand directions and cautions on the label.)
Available at $4.00 per 100 copies. Discounts available on large quantity orders. Ask for quotes. Chemical Specialties Manufacturers Association, Suite 1120, 1001 Connecticut Avenue, N.W., Washington, D.C. 20036.

19. **When Times Get Hot**
(3½'' x 7'', 4-page flyer. Lists the stressful times when accidental poisonings may occur and urges parents to be more alert in those situations.)
Single copy free. Local reproduction authorized. American Association of Poison Control Centers, c/o Academy of Medicine of Cleveland, 10525 Carnegie Avenue, Cleveland, Ohio 44106.

20. **Your Child and Household Safety**
(A monograph by Jay M. Arena, M.D. Discusses continuing need to protect children from potentially harmful substances and circumstances.)
50 cents each. Published and distributed by Chemical Specialties Manufacturers Association, Inc., Suite 1120, 1001 Connecticut Avenue, N.W., Washington, D.C. 20036.

21. **Lead Poisoning Is a Very Serious Sickness**
(Pamphlet for distribution to residents of areas with old lead paint poisoning hazards.)
Free single copies available to organizations for preview. $5.75 per hundred, plus postage. Reproduction proofs for local printing provided at no charge. National Paint and Coatings Association, 1500 Rhode Island Avenue, N.W., Washington, D.C. 20005.

22. **El Envenenamiento con Plomo es una Enfermedad muy Peligrosa**
(Spanish edition of "Lead Poisoning is a Very Serious Sickness.")
See item 21 above for cost information.

23. **Pesticide Safety Literature**
(Assorted pamphlets describing safety precautions to follow in using spray and dust formulations of pest control products.)
Single copies available free. Quantity prices upon request. Safety Division, National Agricultural Chemicals Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.

24. **Poison Perils in the Home (599.75)**
(A 12-page, 4'' x 6'' booklet which takes readers from room to room in their homes pointing out everyday household products that might be deadly poisons.)
50-499, 10.5 cents each; 500-999, 8.4 cents each; 1000-4999, 7.4 cents each. National Safety Council, 444 North Michigan Avenue, Chicago, Illinois 60611.

25. **First Aid Training (ARC 2150)**
(A flyer describing Red Cross First Aid courses of instruction.)
Free at local Red Cross Chapters.

26. **Home Safe Home**
(Tips for parents on how to protect young children in the home environment.)
Up to 100 copies free. Ask for information on larger orders. The Soap and Detergent Association, 475 Park Avenue South at 32nd Street, New York, N.Y. 10016.

27. **We Want You to Know About Preventing Childhood Poisonings**
(Three-fold leaflet, 3½'' x 8¼'', explaining some of the hazards of accidental poisonings and ways to prevent such accidents. Tells how to get help if a child is poisoned. Available in either English or Spanish.)
Limited quantities available from U.S. Food and Drug Administration, 5401 Westbard Avenue, Bethesda, Maryland 20207; Attn NCPCC.

28. **Pesticides . . . Read the Label First**
(A two-color brochure written for pesticide users explaining the important aspects of pesticide labels and tips for safe use of pesticides. 3-fold leaflet, 4'' x 9''.)
Quantities available free from Public Information Center (PM-215), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

29. **Safe Pesticide Use Around the House**
(Written for homemakers, describes safe use of common household pesticides. 10 pages.)
Limited numbers of copies available from Public Information Center, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

30. **Keep Poison Baits Out of Children's Reach**
(Two-color, 4'' x 9'' brochure explaining proper storage and placement of rodent, ant, and roach pesticide baits. Spanish edition also available.)
Limited quantities available from Public Information Center, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

31. **Home Checklist**
(8½'' x 11'' flyer which helps to locate trouble spots in the home as they relate to accidental poisonings.)
Single copy free. Local reproduction authorized. American Association of Poison Control Centers, c/o Academy of Medicine of Cleveland, 10525 Carnegie Avenue, Cleveland, Ohio 44106.

32. **First Aid for Poisoning**
(A 16-page booklet primarily for the training of the lay person in emergency care techniques by authorized American Red Cross first aid instructors. ARC Stock No. 320801.)
Available from local Red Cross Chapters at nominal cost.

33. **First Aid for Poisoning**
(An 8½'' x 11'' two-color Flyer/Poster.)
Limited quantities available through local Red Cross Chapters. Package of 100, $2.

34. **Tips on Child Safety**
(A pediatrician tells how to prevent accidental poisoning and other accidents.)
Produced by Closure Committee, Glass Packaging Institute. Limited quantities free. Send stamped, self-addressed, business-size envelope to Safety Tips, Closure Information Bureau, 11th floor, 300 E. 44th St., New York, N.Y. 10017.

35. **Women and Health**
(10 articles on health concerns of women today, including an article on preventing accidents in the home, and a tear-out home Emergency Reference Chart.)
Quantities up to 10 free; larger quantities 10 cents each. Council on Family Health, Dept. P, 633 Third Avenue, New York, N.Y. 10017. (Payment should accompany all orders.)

36. **Poison Isn't Kid Stuff**
(3½'' x 7'', 4-page, color pamphlet. Suggests dangerous household products be kept away from children and medical advice be obtained when a poisoning is suspected.)
Single copy free. Local reproduction authorized. American Association of Poison Control Centers, c/o Academy of Medicine of Cleveland, 10525 Carnegie Avenue, Cleveland, Ohio 44106.

37. **First Aid Skill Book**
(Colorful 31-page booklet. Shows and discusses basic first aid techniques. Aimed at Scout age boys, 11-15.)
30 cents each. Available through Boy Scouts of America, Scouting Supply Center, North Brunswick, N.J. 08902 or local official Scout distributors.

38. **Please Don't Eat the Dieffenbachia!**
(A listing of common poisonous plants with botanical name, toxic parts, and suggested treatment.)
Free. Quantities limited to 25. Request permission to reprint. Giant Food, Inc., Consumer Affairs Dept., Box 1804, Washington, D.C. 20013.

Note: Baltimore is the poison control center listed for information. Other areas should contact their local center.

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POSTERS

39. **Keep Safely . . . Away from Children (4069-A)**
(An 8½" x 11½" colored poster emphasizing the importance of keeping children away from medicines and cleaning products.)

1-9, 34 cents each; 10-99, 22 cents each; 100-999, 13.2 cents each. National Safety Council, 444 North Michigan Avenue, Chicago, Illinois 60611.

40. **Curiosity Can Kill (4754-A)**
(An 8½" x 11" colored poster depicting a child pulling stopper out of poison bottle.)

1-9, 34 cents each; 10-99, 22 cents each; 100-999, 13.2 cents each. National Safety Council, 444 North Michigan Avenue, Chicago, Illinois 60611.

41. **National Poison Prevention Week 1979**
(11" x 17" for windows, bulletin boards, etc.)

Quantities can be purchased from the Order Desk, American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037. 25 for $7.50; 50 for $13; 100 for $22. Postpaid. (Payment must accompany orders.)

42. **STOP and Read the Label Before Using Any Pesticide**
(An 18" x 22" wall poster for wall display. Red STOP sign draws attention to need for reading label directions before using any pesticide.)

Free. Safety Division, National Agricultural Chemicals Association, 1155 15th Street, N.W., Washington, D.C. 20005.

43. **Small STOP Sign with Gummed Back**
(2" x 2" STOP sign with gummed back. Sign is identical to large STOP sign poster calling attention to need for reading label directions before using any pesticide. For attachment to storage cabinets or sprayers.)

Free. Safety Division, National Agricultural Chemicals Association, 1155 15th Street, N.W., Washington, D.C. 20005.

44. **Your Baby is an Explorer**
(8½" x 11½" illustrated, two-color poster calling Mother's attention to the necessity of keeping dangerous items out of children's reach.)

Minimum orders of 10. Under 500, 25 cents each; 501-999, 20 cents each; over 1000, prices on request. Postage prepaid. The Soap and Detergent Association, 475 Park Avenue South at 32nd Street, New York, N.Y. 10016.

45. **Labels . . . Read and Heed (3764-A)**
(An 8½" x 11" colored poster depicting the importance of reading warning and caution labels on household items.)

1-9, 34 cents each; 10-99, 22 cents each; 100-999, 13.2 cents each. National Safety Council, 444 North Michigan Avenue, Chicago, Illinois 60611.

46. **He'll Eat Anything He Can Get His Hands On**
(A 20" x 23" poster, produced by the Consumer Product Safety Commission and warning against childhood poisoning. Stock No. 052-011-00090-6.)

25 copies: $2.85. Specify above stock number to Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

47. **Store Safely Out of Reach (4723-A)**
(An 8½" x 11½" colored poster showing child unsuccessfully reaching for properly stored household poisons.)

1-9, 34 cents each; 10-99, 22 cents each; 100-999, 13.2 cents each. National Safety Council, 444 North Michigan Avenue, Chicago, Illinois 60611.

48. **Rinse and Drain Pesticide Containers**
(Printed instructions detailing 4 basic steps to effectively reduce the concentration of pesticides remaining in glass, plastic, and metal containers when emptied of original contents to reduce the potential hazard which might occur prior to disposal. 4" x 8" gummed label for attachment to spray tank or pesticide storage area. Poster, 9" x 12", for wall display.)

Single copies of gummed label available free of charge by sending self-addressed stamped envelope. In quantity: gummed labels, $5 per hundred; wall posters, $5.50 per hundred. R/D, National Agricultural Chemicals Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.

49. **First Aid Training Means Accident Prevention**
(8½" x 11" poster. Shows safe medicine cabinet storage practices and gives general directions for giving first aid.)

Available, free, from local Red Cross chapters.

FILMS, SLIDE TALKS, PUBLIC ADDRESSES, AND MEDIA AIDS

50. **Handle Pesticides Safely — Like a Pro!**
(38 slides, 35mm, color, with a pictorial script and recorded cassette script; covers safe practices from purchase through cleanup for the commercial pesticide applicator.)

Purchase price: $14.95. Visual Education, Inc., Suite 424, 1425 H Street, N.W., Washington, D.C. 20005.

51. **Safety at Home with Pesticides**
(24 slides, 35mm, color, with recorded cassette and pictorial script, produced in cooperation with National Agricultural Chemicals Association. Provides practical approach to safety in the home surroundings, to provide child protection when handling and storing pesticides used around the home.)

Purchase price: $11.95. Visual Education, Inc., Suite 424, 1425 H Street, N.W, Washington, D.C. 20005.

52. **Poison Perils (slide series) (576.04)**
(Thirty 2" x 2" full color cardboard slides, sturdy shipping-storage container, and 20-page script book including hints for conducting an interesting slide presentation, and questions to stimulate discussion following the presentation. Slides deal with poison prevention and control in the home.)

Purchase price: 1 slide set, $39.60; 2-9 sets, $37.20. National Safety Council, 444 North Michigan Avenue, Chicago, Illinois 60611.

53. **Poison: Handle With Care**
(35-frame filmstrip with script. Suitable for upper elementary grade levels through adult audiences. Covers common household chemicals, preventive measures, and first aid suggestions.)

Color, $10.50; black and white, $7.50. There is a 3% Handling Charge on each order. Visual Education Consultants, Inc., Madison, Wisconsin 53701.

54. **250,000 Ways to Destroy a Child's Life Without Leaving Home**
(15-minute color, sound film. Relates poisoning hazards in average home to stages of a child's development and gives needed prevention measures. Also shows steps to follow when precautions fail. Informative for those responsible for child-care as well as medical and paramedical personnel.)

Available as a 16 mm color sound film or on video cassette. $225. Contact Mar/Chuck Film Industries, P.O. Box 61, Mt. Prospect, Illinois 60056.

55. **Safety Rules for Home Pesticides**
(Filmstrip, prepared with the cooperation of the U.S. Department of Agriculture, illustrates the right way to handle pesticides before, during, and after use.)

Purchase price: $7.50 plus 3% handling charge on each order. Visual Education Consultants, Inc., P.O. Box 52, Madison, Wisconsin 53701.

56. **Prevent Accidental Poisonings (Revised 1978)**
(Filmstrip identifies and shows how to handle common household poisons. Gives instructions on what to do if accidental poisoning occurs.)

Purchase price: $5.50 plus 3% handling charge on each order. Visual Education Consultants, Inc., P.O. Box 52, Madison, Wisconsin 53701.

57. **Captioned Slides**
(40 slides, 35 mm, color. New series of captioned slides. Suitable for use in an automatic projector with a self-contained screen for display in clinics, at health fairs, etc. May also be used for oral presentations to adults.)

Purchase price: $20.00. American Association of Poison Control Centers, c/o Academy of Medicine of Cleveland, 10525 Carnegie Avenue, Cleveland, Ohio 44106.

58. **Poisons All Around Us**
(A new 11-minute, 16 mm, sound, color film acquaints viewer with common poisons, including household items, plants and medications. Designed for young people and adults, it details emergency procedures.

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*Source: Independent Market Research

A·H·ROBINS
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Richmond, Virginia 23220

Purchase price: $160. Rental fee: $16. Also available on special order in Super 8 mm and video cassettes. Alfred Higgins Productions, Inc., 9100 Sunset Blvd., Los Angeles, California 90069.

49. **Our Poison Jungle (cartoon slides)**
(44 slides, 35 mm, color with annotated script. Directed towards an adult audience. Covers incidence, hazards, preventive measures, and first aid suggestions.)

Purchase price: $20.00. Rental fee for three-week period: $5.00. American Association of Poison Control Centers, c/o Academy of Medicine of Cleveland, 10525 Carnegie Avenue, Cleveland, Ohio 44106.

60. **Our Poison Jungle (filmstrip)**
(44-frame, color filmstrip plus curriculum guide with script and materials for classroom use. Designed for presentation to pupils in grades 2-5. Discusses chemical hazards in their homes and how they can prevent accidental poisonings.)

Purchase price: $10.00; 10 or more, $9.50 each. Cassette tape for filmstrip: $5.00. Additional booklets with script, etc., if accompanying original order: 50 cents each. American Association of Poison Control Centers, c/o Academy of Medicine of Cleveland, 10525 Carnegie Avenue, Cleveland, Ohio 44106.

61. **The Careless Family**
(A 15-minute animated cartoon film, 16mm, sound and color. Discusses adult carelessness and children's poisonings.)

Purchase price: $75. American College of Apothecaries, 874 Union Avenue, Memphis, Tennessee 38163.

62. **Lead Poisoning Could Strike Your Child**
(A 20-minute, 16mm, sound, color film on old lead paint poisoning causes and prevention and childhood lead poisoning symptoms and treatment.)

Produced in cooperation with National Paint and Coatings Association. Available from Allied International Films, Ltd., 6609 Crystal Springs Road, P.O. Box K, Crystal Lake, Illinois 60014. $187.50 per print.

63. **Read the Label — and Live! (2nd ed.)**
(A 13-minute, 16mm sound, color, film. Stresses the importance of reading warning labels on commonly used products. Details safe handling practices.)

Purchase price: $195.00; rental fee, $20.00. Available on special order in Super 8mm and video cassettes. Alfred Higgins Productions, Inc., 9100 Sunset Blvd., Los Angeles, CA 90069.

64. **Look 'n' Do First Aid Visual Aids**
(145-frame slide-set or filmstrip, with script. Designed to show how to recognize and treat first aid emergencies. Aimed at Scout age boys, 11-15.)

Slides, $14.50; filmstrip, $9.80. Audio-visual Division, Boy Scouts of America, North Brunswick, N.J. 08902.

65. **The Travels of Timothy Trent**
(10-minute, 16mm, color, sound film. Tells parents and others responsible for the care of young children how safety packaging protects from accidental poisoning. Free discussion materials also available with this film.)

Available on free loan. Produced by U.S. Consumer Product Safety Commission. Available from Modern Talking Pictures, 2323 New Hyde Park Road, New Hyde Park, New York 11040. Telephone: 516 — 437-6300. Purchase price: $49.50, from National Audio-visual Center, Order Dept., Washington, D.C. 20409.

MISCELLANEOUS

66. **Teaching About Drugs. A Curriculum Guide K-12**
(A model for use by classroom teachers and youth group leaders. Includes suggestions for poison prevention learning activities and appropriate resources, reference papers, and color photos.)

$4. American School Health Association, P.O. Box 708, Kent, Ohio 44240.

67. **National Poison Prevention Week Packet**
(Folder containing list of available materials, fact sheet, state and local officials' suggested proclamations, and other promotional materials for the Poison Prevention Week Observance.)

Order from Secretary, National Planning Council for National Poison Prevention Week, P.O. Box 1543, Washington, D.C. 20013.

68. **Poison Prevention Packet**
(Folder containing informational and educational materials on poison prevention.)

Single copy free. U.S. Consumer Product Safety Commission, 5401 Westbard Avenue, Bethesda, Maryland 20207; Attn: OC.

69. **A Guide to Teaching Poison Prevention to Kindergarten and Primary Grades**
(A 68-page manual published by the Consumer Product Safety Commission; contains games, pictures, work sheets, etc., designed to assist in teaching poison prevention to children. Stock No. 052-003-00257-4.)

Single copies: $1.25. Specify above stock number to Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

70. **Presidential Proclamation**
Single copies of the President's proclamation will be available after date of issue. Secretary, National Planning Council for National Poison Prevention Week, P.O. Box 1543, Washington, D.C. 20013.

71. **Poison Puzzles & Games**
(12-page book for ages 5-10. Includes games, puzzle, maze and pictures for coloring, all directed toward teaching poison prevention safety rules.)

Single copy: 50 cents; minimum order, $1.00. Payment must accompany order unless ordered with slides or filmstrip. Quantity prices to be determined. American Association of Poison Control Centers, c/o Academy of Medicine of Cleveland, 10525 Carnegie Avenue, Cleveland, Ohio 44106.

72. **NPPW List of Materials**
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calendar

Jan. 7-14 — WINTER TRIP TO ST. MAARTEN — additional plane added

Jan. 14-21 — WINTER TRIP TO ST. MAARTEN — original trip

Jan. 14 — C.E. PROGRAM — Maryland DPS Law — UMBC

Feb. 11 — BMPA Installation Banquet — Blue Crest

Feb. 18 — C.E. PROGRAM — Maryland DPS Law — Salisbury

Feb. 22 — INDUSTRY RELATIONS SEMINAR

March 4 — Swain Seminar — College Park

March 19 — NARD Legislative Conference – Washington, D.C.

April 5 — MPhA SPRING REGIONAL — Quality Inn, Catonsville

April 21-26 — APhA Convention — Anaheim, California

May 6 — AZO Fritz Berman Seminar

June 24-28 — MPhA CONVENTION — TAMIMENT, PENNSYLVANIA

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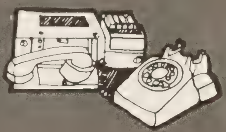

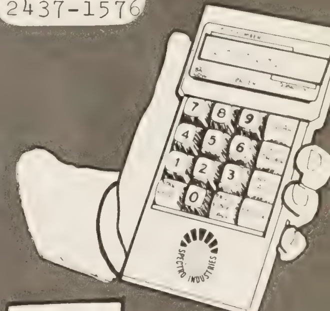

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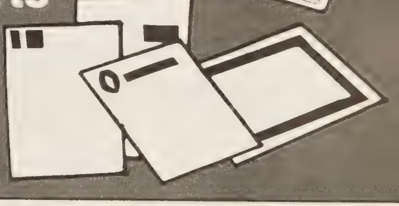

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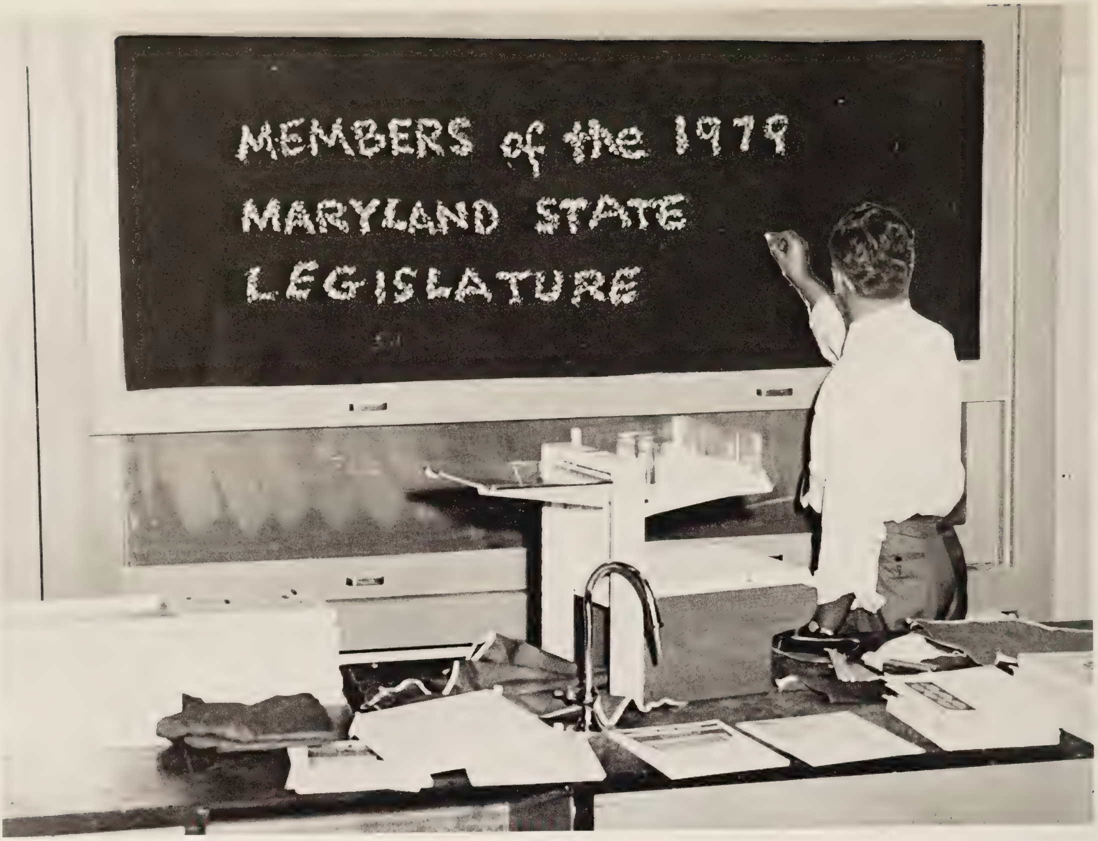

Members of the MPhA Legislative Committee are: Milton Sappe (Chairman), Ronald Lubman, Leonard DeMino, Nathan Schwartz, Stanley Brodie, Luisa Massari, Stanley Yaffe, Ira Fedder, Laurajean Councill, Anthony Padussis, S. Ben Friedman, Doreen Fliss and George Voxakis. The Committee welcomes input on the 1979 legislative session.

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Subdistrict 1B		
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Del. Thomas B. Cumiskey (D)	219 Schley Street	Cumberland, 21502

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Subdistrict 5B		
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Del. William H. Cox, Jr. (D)	625 Ridgewood Road	Bel Air, 21014
Del. Catherine I. Riley (D)	747 Roland Avenue	Bel Air, 21014

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Del. R. Terry Connelly (D)	1507 Old Eastern Ave.	Essex, 21221
Del. Michael H. Weir (D)	1707 Cape May Rd.	Essex, 21221

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Del. Daniel J. Minnick, Jr. (D)	2421 Fairway	Dundalk, 21222
Del. Robert R. Staab (D)	2816 Moorgate Road	Baltimore, 21222

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Del. William J. Burgess (D)	8215 Edwill Avenue	Baltimore, 21237
Del. William Rush (D)	3307 Putty Hill Ave.	Baltimore, 21234

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Del. Donald K. Hughes (D)	1121 High Country Rd.	Towson, 21204
Del. Thomas B. Kernan (D)	37 Acorn Circle	Towson, 21204
Del. Mark C. Medairy, Jr. (D)	719 Camberley Cir., #A-2	Towson, 21204

District 11 — Baltimore County

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Del. Bert Booth (R)	11231 Greenspring Ave.	Lutherville, 21093
Del. Thomas W. Chamberlain,, Sr. (R)	307 Galway Road	Timonium, 21093
Del. A. Wade Kach (R)	15 Brookshire Dr.	Reisterstown, 21136

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Del. Arthur S. Alperstein (D)	4104 Balmoral Circle	Baltimore, 21208
Del. Paula Colodny Hollinger (D)	3708 Lanamer Road	Randallstown, 21133
Del. Theodore Levin (D)	626 Ralston Avenue	Baltimore, 21202

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Del. Charles E. Kountz (D)	217 Hazel Avenue	Baltimore, 21227
Del. Kenneth H. Masters (D)	1809 Edmondson Ave.	Catonsville, 21228
Del. Louis P. Morsberger (D)	612 Hilton Avenue	Catonsville, 21228

District 14 — Howard and Montgomery Counties

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Subdistrict 14A		
Del. Joel Chasnoff (D)	13712 Batchelors Dr.	Colesville, 20904
Subdistrict 14B		
Del. Anne E. Baker (D)	3113 The Oaks Road	Ellicott City, 21043
Del. Hugh Burgess (D)	8900 Frederick Rd.	Ellicott City, 21043

District 15 — Montgomery County

Sen. Laurence Levitan (D)	11426 Georgetown Dr.	Potomac, 20854
Subdistrict 15A		
Del. Jerry H. Hyatt (D)	27521 Mt. Radnor Rd.	Damascus, 20750
Subdistrict 15B		
Del. Judith C. Toth (D)	6611 80th Place	Cabin John, 20034
Del. Robin Ficker (R)	7526 Glennon Drive	W. Bethesda, 20034

District 16 — Montgomery County

Sen. Howard A. Denis (R)	5301 Westbard Circle	Bethesda, 20016
Del. Marilyn Goldwater (D)	5508 Durbin Road	Bethesda, 20014
Del. Nancy K. Kopp (D)	6301 Dahlonega Road	Bethesda, 20016
Del. Constance A. Morella (R)	6601 Millwood Road	Bethesda, 20034

District 17 — Montgomery County

Sen. S. Frank Shore (D)	11230 Troy Rd.	Rockville, 20852
Del. Jennie M. Forehand (D)	712 Smallwood Rd.	Rockville, 20850
Del. Joseph E. Owens (D)	13619 Grenoble Dr.	Rockville, 20853
Del. Luiz Simmons (R)	10 Eton Overlook	Rockville, 20850

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Sen. Margaret C. Schweinhaut (D)	3601 Saul Rd.	Kensington, 20795
Del. Donald B. Robertson (D)	7003 Delaware St.	Chevy Chase, 20015
Del. David L. Scull (D)	8717 Susanna Lane	Chevy Chase, 20015
Del. Patricia R. Sher (D)	1916 Rockwood Rd.	Silver Spring, 20910

District 19 — Montgomery County

Sen. Sidney Kramer (D)	11500 Gilsan St.	Silver Spring, 20902
Del. Idamae Garrott (D)	13115 Estelle Rd.	Wheaton, 20906
Del. Helen L. Koss (D)	3416 Highview Court	Wheaton, 20902
Del. Lucille Maurer (D)	1023 Forest Glen Rd.	Silver Spring, 20901

District 20 — Montgomery County

Sen. Victor L. Crawford (D)	9417 Colesville Rd.	Silver Spring, 20901
Del. Stewart Bainum, Jr. (D)	9039 Sligo Creek Pkwy., #1715	Silver Spring, 20901
Del. Sheila Ellis Hixson (D)	1008 Broadmore Cir.	Silver Spring, 20904
Del. Ida G. Ruben (D)	11 Schindler Ct.	Silver Spring, 20903

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Del. Kay G. Bienen (D)	12411 Radnor Lane	Laurel, 20811
Del. Timothy F. Maloney (D)	4305 Josephine Ave.	Beltsville, 20705
Del. Paulene H. Menes (D)	3517 Marlbrough Way	College Park, 20740

District 22 — Prince George's County

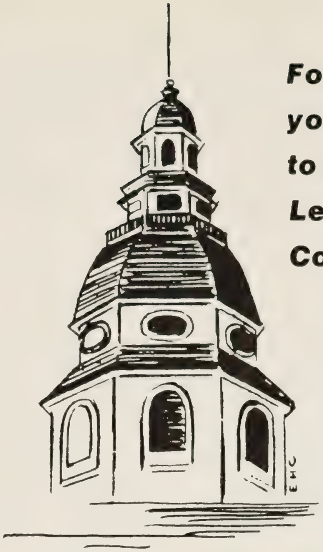
Sen. John J. Garrity (D)	3801 Calverton Dr.	Hyattsville, 20782
Del. Anthony Cicoria (D)	5618 Baltimore Ave.	Hyattsville, 20781
Del. Thomas J. Mooney (D)	705 Elm Avenue	Takoma Park, 20012
Del. Richard A. Palumbo (D)	3419 Stanford St.	Hyattsville, 20783

District 23 — Prince George's County

Sen. Thomas Patrick O'Reilly (D)	7107 Lois Lane	Lanham, 20801
Del. David Bird (D)	3402 Laurel Avenue	Cheverly, 20785
Del. Frank B. Pesci, Sr. (D)	8311 Fremont Place	New Carrollton, 20784
Del. Robert S. Redding (D)	6604 Adrian Street	New Carrollton, 20784

District 24 — Prince George's County

Sen. Edward T. Conroy (D)	12432 Shawmont Lane	Bowie, 20715
Del. Gerard F. Devlin (D)	2505 Kitmore Lane	Bowie, 20715
Del. Joan Pitkin (D)	12005 Longridge Lane	Bowie, 20715
Del. Charles J. Ryan (D)	3007 Bendix Lane	Bowie, 20715



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Del. Nathaniel Exum (D)	6702 Arlene Drive	Seat Pleasant, 20027
Del. Francis J. Santangelo, Sr. (D)	7009 E. Chesapeake St.	Landover, 20785
Del. Sylvania W. Woods, Jr. (D)	7816 Fiske Avenue	Lanham, 20801

District 26 — Prince George's County

Sen. B. W. Mike Donovan (D)	7112 Mason St.	District Heights, 20028
Del. Dennis C. Donaldson (D)	7405 Kipling Parkway	District Heights, 20028
Del. Lorraine M. Sheehan (D)	42 Herrington Dr.	Upper Marlboro, 20870
Del. Francis W. White (D)	33 Thurston Dr.	Largo, 20870

District 27 — Prince George's County

Sen. Peter A. Bozick (D)	5606 Lansing Dr.	Camp Springs, 20031
Del. Charles S. Blumenthal (D)	519 Barrymore Dr.	Oxon Hill, 20021
Del. Frank J. Komenda (D)	3509 Leslie Ave.	Temple Hills, 20031
Del. Frederick Charles Rummage (D)	6300 George Washington Drive	Camp Springs, 20031

District 28 — Prince George's and Charles Counties

Sen. Thomas V. Mike Miller, Jr. (D)	6502 Horseshoe Dr.	Clinton, 20735
Del. William R. McCaffrey (D)	12405 Lytton Ave.	Brandywine, 20613
Del. Joseph F. Vallario, Jr. (D)	8116 Rosaryville Rd.	Upper Marlboro, 20870
Del. John W. Wolfgang (D)	12334 Hatton Point Rd.	Fort Washington, 20022

District 29 — Charles and St. Mary's Counties

Sen. James C. Simpson (D)	Rt. 3, Box 488	LaPlata, 20646
Del. Roy Dyson (D)	P.O. Box 5	Great Mills, 20634
Del. John William Quade (D)	Box 58	Clements, 20624
Del. Michael J. Sprague (D)	P.O. Box 314	Port Tobacco, 20677

District 30 — Anne Arundel and Calvert Counties

(Vacancy) Sen. Edward T. Hall — deceased		
Subdistrict 30A		
Del. Thomas A. Rymer (D)	P.O. Box 14, Boyd's Turn Rd.	Owings, 20836
Subdistrict 30B		
Del. Elmer Hagner (D)	2511 Riva Road	Annapolis, 21401
Del. Gerald W. Winegrad (D)	1428 Catlyn Place	Annapolis, 21401

District 31 — Anne Arundel County

Sen. Jerome F. Connell, Sr. (D)	101 Tick Neck Rd.	Pasadena, 21122
Del. William J. Burkhead (D)	15 Country Club Dr.	Glen Burnie, 21061
Del. Philip C. Jimeno (D)	833 Matthews Ave.	Brooklyn Park, 21225
Del. Walter J. Shandrowsky (D)	7615 Bay Street	Pasadena, 21122

District 32 — Anne Arundel County

Sen. H. Erle Schafer (D)	7887 Chestnut Rd	Severn, 21144
Del. Tyras S. Athey (D)	Box 379 F., Rt. 2	Jessup, 20794
Del. Patrick C. Scannello (D)	114 Vernon Ave	Glen Burnie, 21061
Del. George T. Schmincke (D)	108 Chalmers Ave	Glen Burnie, 21061

District 33 — Anne Arundel County

Sen. John A. Cade (R)	78 Riverside Dr.	Severna Park, 21146
Del. James Lighthizer (D)	1782 Crofton Parkway	Crofton, 21114
Del. Robert R. Neall (R)	771 West Central Ave.	Davidsonville, 21035
Del. Elizabeth S. Smith (R)	3438 Merrimac Rd.	Davidsonville, 21035

District 34 — Cecil, Kent, and Queen Anne's Counties

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Del. Richard D. Mackie (D)	R.D. #8, Little Elk Farm	Elkton, 21921
Del. R. Clayton Mitchell, Jr. (D)	Kentmore Park	Kennedyville, 21645
Del. Carter M. Hickman (D)	R.D. #1, Box 130	Church Hill, 21623

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Del. John R. Hargreaves (D)	Rt. 2, Box 44L	Denton, 21629
Del. W. Henry Thomas (D)	1009 Radiance Drive	Cambridge, 21613
Del. William S. Horne (D)	206 Brookletts Ave.	Easton, 21601

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Se. Joseph J. Long, Sr. (D)	730 South Park Drive	Salisbury, 21801
Del. Robert C. Biggy Long (D)	P.O. Box 216	Westover, 21871
Del. Lewis R. Riley (R)	P.O. Box 130	Parsonsburg, 21849
Del. Mark O. Pilchard (D)	RFD #3, Box 100	Pocomoke, 21851

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Sen. Harry J. McGuirk (D)	310 Long Island Ave.	Baltimore, 21229
Del. R. Charles Avara (D)	3508 Coolidge Ave.	Baltimore, 21229
Del. Joseph W. O'Malley (D)	604 Jeffrey St.	Baltimore, 21225
Del. Paul E. Weisengoff (D)	555 Brisbane Rd.	Baltimore, 21229

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Del. Lena K. Lee (D)	1818 Madison Ave.	Baltimore, 21217
Del. Larry Young (D)	1716 McCulloh St.	Baltimore, 21217

District 39 — Baltimore City

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Del. Torrey C. Brown (D)	3941 Canterbury Rd.	Baltimore, 21218
Del. James W. Campbell (D)	1329½ W. 41st St.	Baltimore, 21211
Del. Anne Scarlett Perkins (D)	4110 Greenway	Baltimore, 21218

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Del. Troy Brailey (D)	2405 Baker St.	Baltimore, 21216
Del. Frank M. Conaway (D)	2330 Mosher St.	Baltimore, 21216
Del. Howard P. Rawlings (D)	3502 Sequoia Ave.	Baltimore, 21215

District 41 — Baltimore City

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Del. Walter R. Dean, Jr. (D)	P.O. Box 11937	Baltimore, 21207
Del. Margaret H. Murphy (D)	4204 Ethland Ave.	Baltimore, 21207
Del. Rev. Wendell H. Phillips (D)	3604 Edgewood Rd.	Baltimore, 21218

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Del. Benjamin L. Cardin (D)	2509 Shelleydale Dr.	Baltimore, 21209
Del. David B. Shapiro (D)	2102 Shelburne Rd.	Baltimore, 21208
Del. Steven V. Sklar (D)	119 Cross Keys Rd.	Baltimore, 21210

District 43 — Baltimore City

Sen. J. Joseph Curran, Jr. (D)	5203 Springlake Way	Baltimore, 21212
Del. Andrew Joseph Burns (D)	920 Woodson Rd.	Baltimore, 21212
Del. Henry R. Hergenroeder, Jr. (D)	307 Underwood Court	Baltimore, 21212
Del. John A. Pica, Jr. (D)	307 E. Belvedere Ave.	Baltimore, 21212

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Del. Gerald J. Curran (D)	2901 Montebello Terr.	Baltimore, 21214
Del. Dennis C. McCoy (D)	2241 East Lake Ave.	Baltimore, 21213
Del. Frank C. Robey, Jr. (D)	1218 Havenwood Rd.	Baltimore, 21218

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Del. Joseph A. Chester, Sr. (D)	3027 E. Federal St.	Baltimore, 21213
Del. John W. Douglass (D)	1535 E. North Ave.	Baltimore, 21213
Del. Hattie N. Harrison (D)	2503 E. Preston St.	Baltimore, 21213

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Del. Anthony M. DiPietro, Jr. (D)	429 N. Lakewood Ave.	Baltimore, 21224
Del. Charles J. Krysiak (D)	364 S. Cornwall St.	Baltimore, 21224
Del. Patrick L. McDonough (D)	3116 E. Monument St.	Baltimore, 21205

District 47 — Baltimore City

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Del. James R. Dietrich (D)	158 N. Potomac St.	Baltimore, 21224
Del. Raymond A. Dypski (D)	2824 Dillon St.	Baltimore, 21224
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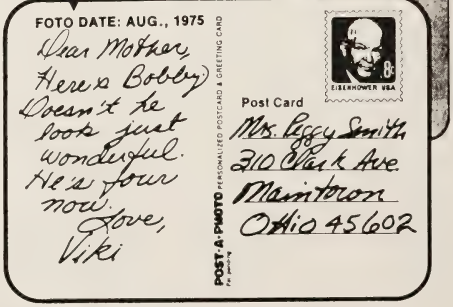

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Officers and members of the Executive Committee who were installed at the meeting included: (left to right) Elwin Alpern, Allen Posner (Honorary President), Marvin Friedman (President-Elect), Joseph Loetell (Vice President), Milton Sappe (Chairman of the Executive Committee) and James Culp, Jr.

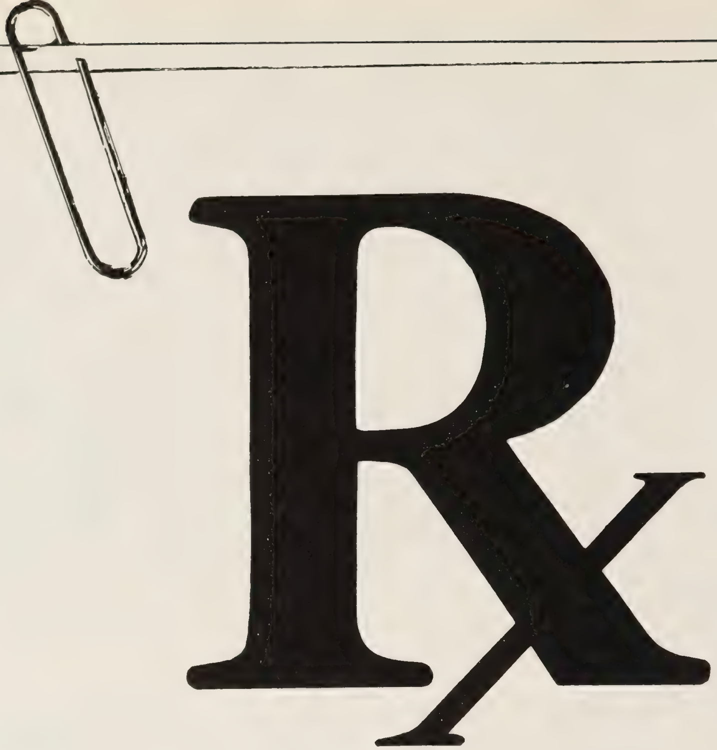
Ralph Quarles was installed as President of the Baltimore Metropolitan Pharmaceutical Association at the Annual Meeting held on November 2, 1978 at the Pikesville Quality Inn.

BMPA Installs Officers at Annual Meeting

Pictures courtesy of Paramount Photo Service

The members heard Dr. Bruce Siecker, Director of APhA's Institute on Pharmacy Management discuss the Uniform Cost Accounting System (UCAS). (See the October, 1978 issue of the Journal.)

President Quarles receives the gavel from the installation officer and Treasurer Charles Spigelmire, while Milton Sappe observes.



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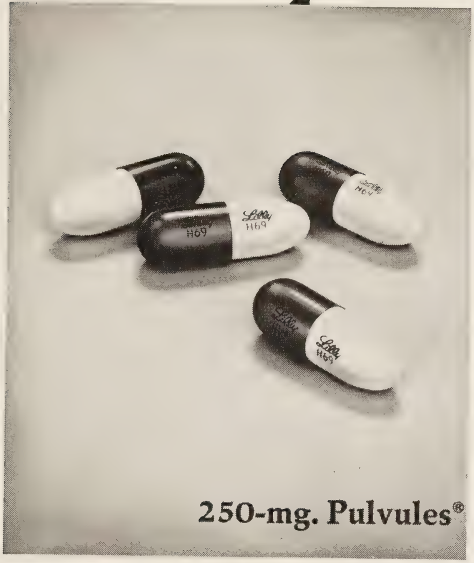

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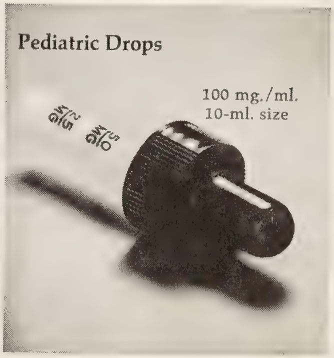

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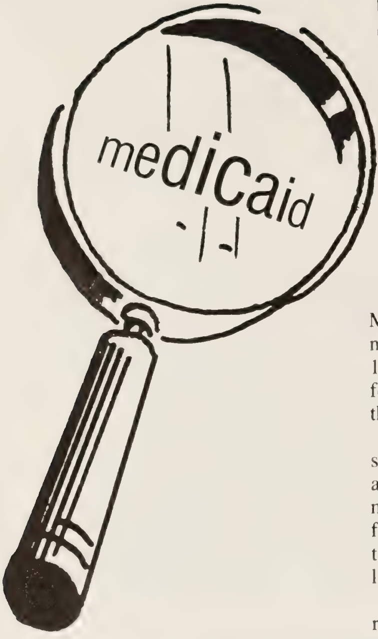

Fraud Control Units Gear Up To Detect Illegal Billings and Prosecute Offenders.

by Ann Slayton

Since the scandals of Medicaid Mills splashed across the country's newspapers and television screens in 1976, there has been an increased effort to curb fraud and abuse in both the Medicaid and Medicare programs.

The best estimates of federal and state funds lost annually to fraud and abuse in the two programs is $15 million for Medicare and $653 million for Medicaid. But so-called administrative waste and errors bring the total loss to $4.5 billion annually.

Officials have been understandably reluctant to make firm predictions about how much this loss will be cut once the anti-fraud, abuse and error campaigns are fully mobilized. One reasonable estimate for fraud and abuse is that for every dollar spent in reviews, investigations, and prosecutions, between 4 and 5 dollars will be recovered.

Between April 1975 and March 1978, the State of New York spent $12.4 million to ferret out fraud involving $113 million. Of this, the state expects to recover at least $65 million. What cannot be measured, however, is the deterrent value of these well publicized convictions.

Nationally, during Fiscal Year 1977 the states reported that they referred 391 cases of suspected fraud to law enforcement officials for prosecution. Of these, 91 convictions were obtained, and an additional 149 providers were barred from participating in the Medicaid program. The total amount of payments for fraudulent claims in those cases was nearly $70 million.

HEW has been reviewing the claims of 26,000 physicians and pharmacists whose patterns of utilization and reimbursement appear to be improper when compared to established norms. To date some 600 of those have been referred for full-scale investigation. Thus far, 16 indictments have been returned, and there have been six convictions and one acquittal.

Don Nicholson, director of HCFA's Office of Program Integrity, is quick to point out that prosecutions are not sought on these data alone. "These data are useful only insofar as they provide an indication of potential fraud or overutilization," says Nicholson. A decision to prosecute for fraud cannot be made until a thorough investigation has been completed; this would include an examination of medical records to determine the type of services actually rendered.

While incidents of fraud and efforts to combat it have captured most of the headlines, work also has been underway to reduce administrative waste and error. Goals were set for states to reduce eligibility errors. States that achieved these goals would continue to receive their full share of federal funds; States that did not would lose a measure of funds.

Before the Medicare-Medicaid Anti-Fraud Amendments were passed in October of 1977, each state Medicaid agency was responsible for detecting, investigating, and developing suspected cases of fraud. There were great variations in the states' capabilities to control fraud. Some had no programs of control at all, and a few, like New York, Texas, California and New Jersey, had programs which had been in operation for several years.

To attack the problem across a broad front, Congress established the office of Inspector General in HEW to coordinate the total program, and

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Ann Slayton is a staff writer in HCFA's Office of Public Affairs.

Reprinted from Forum, *Vol. 2, No. 4, 1978*

HCFA established the Office of Program Integrity. The combined effort took three major approaches:

- Increasing the number of field investigators
- Assisting the states to more effectively develop cases of Medicaid fraud, particularly provider fraud
- Developing management and reporting systems which would help them identify errors and overpayments

Before May 1975, Medicaid had 32 program personnel involved in fraud and abuse and HEW had 10 professional investigators. Today, HCFA has 280 program integrity specialists around the country and the Office of Inspector General has about 65 professional investigators, with another 70 authorized. States whose fraud control units are certified have added a total of 690 investigators, lawyers and auditors. In the effort to counteract fraud, the Government pays 90 percent of the costs of these state operations.

Training

HEW has conducted training programs for its own staff since 1969. Now the responsibility is shared by the Institute of Medicaid Management, the Inspector General's Office of Investigation, and HCFA's Office of Program Integrity. Training is given in investigative techniques, legal grounds for prosecution, and developing a case for prosecution.

First, a general introduction to the Medicaid and Medicare programs is given so that investigators will know how to question providers effectively and how to locate and quickly check records for irregularities.

Second, trainees are given an introduction to criminal law, including an explanation of statutes pertaining to mail fraud, false statements and claims, embezzlement and theft, perjury, conflict of interest, bribery, and graft by Government employees.

The third stage of the program concerns gathering evidence. Investigators and auditors learn what constitutes evidence, what evidence is admissible in court and the correct procedures used to obtain evidence.

State fraud control units

To some extent, the present effort to curb Medicaid fraud is not a continuation of the old game, but a different game altogether. During the period when the states each ran their own fraud control activities—or didn't—the game was much like a casual summer afternoon drive. Now, not only has the pace of the drive picked up, but the drivers are more skilled and are driving high-performance cars.

A state fraud control unit is composed of investigators, attorneys, auditors and other specialists whose combined skills create a vigorous team. The units are viewed by the Congress as vitally needed to restore public confidence in the Medicaid program and to deter providers from committing fraud.

HEW pays 90 percent of the cost of these units for up to three years. After this period, the states are expected to support their own operations.

To date 16 states have received certification for their units, and an equal number have expressed a strong interest in establishing units. The three general requirements for states to receive funding of their anti-fraud units are:

- The unit must be "separate and distinct" from the state Medicaid agency.
- The unit must be located either within the office of the state attorney general, or with an agency that has statewide prosecution authority or within an agency with a formal working relation with the state attorney general, approved by HEW.
- All procedures must be developed and memoranda of understanding written, and the applicant must show that there is sufficient staff to properly investigate, prepare, and prosecute suspected fraud cases.

The capability for prosecution and a thorough grounding in Medicaid are considered the cornerstones for a successful fraud control program.

One barrier to certification is that in several states, the attorney general does not have statewide prosecution authority. To gain certification, some states are seeking legislation to give them the necessary authority. Other states may be able to show that they already have effective procedures for referring cases of suspected fraud to all appropriate prosecuting authorities.

The fraud control unit must have a combination of investigators, attorneys, and auditors on a full-time basis. It must also employ or have access to other professionals knowledgeable in medicine, pharmacy, and the Medicaid requirements under Title XIX.

The fraud unit and the Medicaid agency must have a written agreement which covers the procedures for referring cases of suspected fraud to the unit, a guarantee of access to Medicaid files, and assurance of confidentiality.

In addition to handling all aspects of abuse, the Medicaid agency continues to review suspected provider fraud. Those cases which are questionable are referred to the fraud unit for investigation.

In a case where it is clear that providers have received funds to which they are not entitled, the fraud unit will ask for restitution, or refer it back to the state agency for recovery. In either event, the fraud unit follows the case closely to see that some action is taken quickly.

Obviously, good working relations and good communication between the Medicaid agency and the fraud control unit are essential. New Jersey has had its fraud control unit housed within the attorney general's office for more than three years. Referral and administrative guidelines were worked out between the state Medicaid agency and the attorney general's fraud unit in 1977.

Before the two offices established guidelines for the timely processing of cases, the cases "would sit in the Medicaid agency for years," says Robert Sturges, chief of the attorney general's fraud unit. Now the average turn-around time is 30 days.

During this 30-day period a case is

referred to the fraud unit for review and is either prepared for investigation and prosecution or sent back to the Medicaid agency for administrative disposition.

Administrative sanctions include suspension of the suspected provider while the fraud unit is preparing a case for prosecution. Respresentatives of the two offices meet twice a month to inform each other of progress in each case.

Evaluating success

The anti-fraud approaches of states vary considerably. Oklahoma, for example, has long emphasized prevention through good relations with the provider community and through tight program management. The state conducts a training program for providers, closely screens and verifies all claims, and widely publicizes its convictions of fraud. Montana also has a rigorous claims screening process and reports a low number of prosecutions. In these two cases, dollar recoveries have little meaning in assessing the programs' successes.

How, then, is a state's fraud control activity assessed? Says Don Nicholson, director of the Office of Program Integrity, "Our evaluation of a state's efforts is determined by a variety of factors: the state's commitment of resources to fraud and abuse control; its workload, including investigations, convictions, sanctions, and prosecutions; its demonstrable efforts to improve operations; and the basic characteristics of its program."

How is the success of states' efforts measured in national terms? The picture is incomplete because, until now, states have not been required to systematically report data on prosecutions, overpayments, or recoveries.

The Office of Program Integrity has established uniform reporting requirements, which will produce a continuous flow of information from the states. These reports will help HCFA construct a national picture of both the problems and the progress in controlling fraud and abuse.

The status of each case being prepared for prosecution is monitored by HCFA, including where the case was referred for prosecution and its final disposition.

Each year state fraud units must report the number of:

- Investigations initiated, completed and closed
- Cases prosecuted or referred for prosecution and the outcomes
- Complaints received on abuse and neglect of patients in health care facilities, and the number investigated or referred
- Recovery actions initiated by the unit and the Medicaid agency, and the total dollar amounts recovered

Management and data systems

In 1977 it was estimated that eligibility and payment errors by state Medicaid agencies were responsible for some $600 million misspent federal dollars, and that perhaps 20 percent of Medicaid recipients were ineligible for assistance.

In an effort to disseminate to all states the most successful error-reduction techniques developed in any one state, the Institute for Medicaid Management was established. The institute's claims processing and information retrieval system is designed to eliminate errors and to spot patterns of billings that may be improper.

To date 17 states have installed this system and are receiving 75 percent federal funding for operating them. HCFA also pays the states 90 percent of the cost to develop the system. Recently, the system developed by the State of Indiana was adopted by Alabama, thus saving more than $3 million in the cost of designing and implementing a new system. The system was slightly modified and became operational in 9 months for a total cost of $500,000. This is a typical example of the savings that can be achieved by sharing.

Another new computer program intended for eventual installation in the states is the Medicaid Exception Reporting System. It checks for excesses in:

- Encounters between single patients and providers
- Encounters between patients and multiple providers
- Number of services provided
- Number of certain types of diagnoses

The first application of the Exception Reporting System in New Jersey identified 50 providers for investigation. Of the 50 only 17 had been selected by state Medicaid personnel for review.

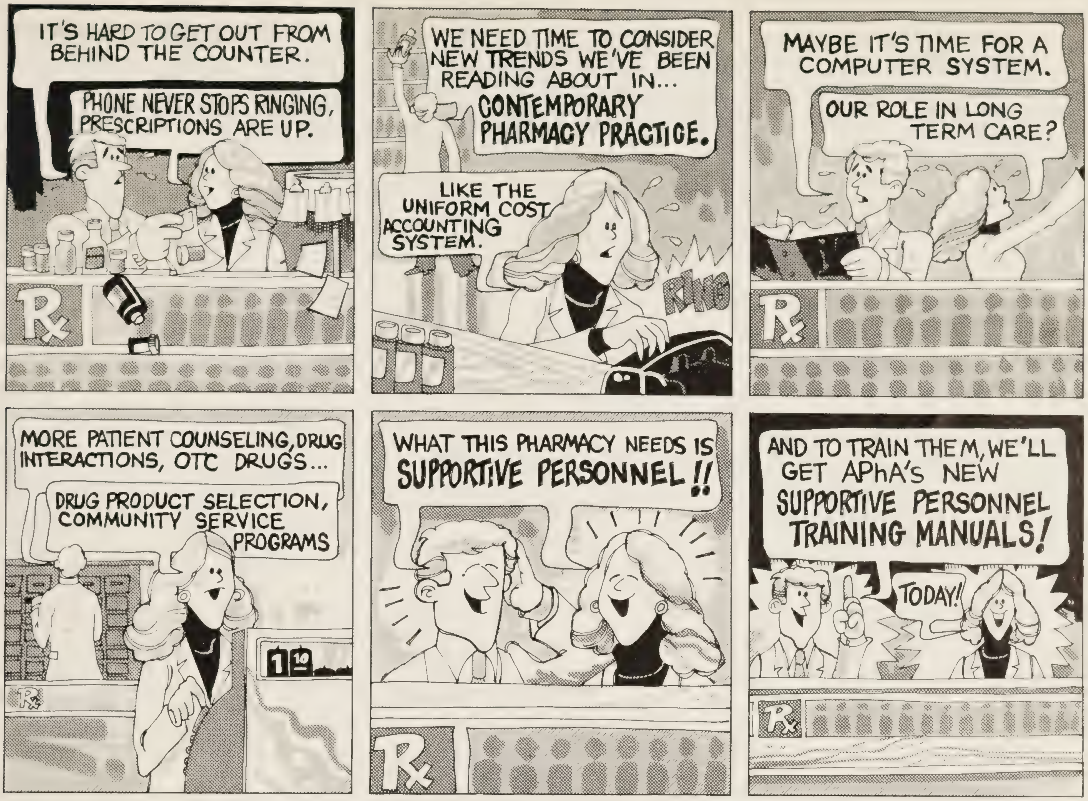
A quality control program was launched in the states to ensure that only persons eligible for benefits receive them. An analysis showed that about 20 percent of the persons on the Medicaid roles were not eligible.

HCFA is proposing a regulation to help states set goals for reducing errors. The regulation, which is expected to become effective by the end of this year, requires states to set goals for reducing error levels at the median of their current error rate or, if set above the median, reduce the error rate by at least 18 percent by October 1, 1979.

The reduction of unnecessary payments due to ineligibility, claims processing errors and the uncollected liabilities of other parties, such as insurance companies, is expected to save $272 million by October 1, 1979. By October 1, 1980, the projected saving is $266 million, and by 1981 $259 million.

Secretary Califano has said, "This department has no more challenging or important task than instilling confidence in the American taxpayer that the vast sums expended by HEW each year are managed with fiscal integrity and responsibility."

The state fraud control units are vital to the issues of curbing fraud by providers and reinstating fiscal integrity to the Medicaid program. By the beginning of 1979, it is anticipated that a majority of the states will have units in full operation. The data uniformly reported to HCFA by the units together with data from the new management systems now being installed in state Medicaid agencies will bring into focus, for the first time, a clear and complete picture of the progress toward curbing fraud and abuse. ■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LETTERS

Producer
20/20
ABC-TV
1330 Avenue of the Americas
New York, N.Y. 10019

Dear Sir:

The Maryland Pharmaceutical Association is the state professional society of pharmacists. I am responding to a segment of the program 20/20 which was aired on November 30, 1978.

It appears to us that, once again, the profession of pharmacy has been caught in the middle of a media over-dramatization on varying prescription drug prices. I have received complaints from members of the Association and they have received complaints from their patients on this program.

In your zeal to make your point you have victimized the many pharmacists who *do* use generic prescription drugs and pass the savings on to the patient. We object to the generalized indictment of Pharmacy when it was this profession that led the fight for drug product selection in every state. Pharmacists are not pleased with the differential pricing policies of pharmaceutical manufacturers and we have worked with consumer groups to bring this situation to light.

Perhaps it is the nature of the medium of television that by showing one example, you have automatically adversely commented on every circumstance.

Are you absolutely certain that the pharmacist in New York did not make a mistake in pricing the Erythromycin? Did you check? What was his method of pricing prescriptions (this can have a bearing on the retail price comparisons between pharmacies)?

Today, we are dealing with a better informed and better educated public. The Pharmacy profession is encouraging patients to become knowledgeable concerning the prescription and non-prescription medication they consume — including price. We believe that the free enterprise system and price competition will prevail in holding down prescription drug prices. The competition in retail pharmacy today is extreme and increasing. You also must understand that there are a variety of factors that enter into price determination at the retail level — such as the amount of professional services available.

I challenge you to consider a future segment of your program devoted to the other side of the coin, the plight of the independent community pharmacy. While not yet an endangered species, retail pharmacy is undergoing some changes and in many cases "Doc" is going out of business. They are going out of business because of the price competition on prescription drugs which you implied, through a few examples, does not exist. The federal government is playing a part in this trend because of its various cost containment programs.

I challenge you to take a closer look, right here in Baltimore, at the pressures affecting the average retail pharmacist. It can still be a rewarding and fulfilling profession, but more and more young pharmacists are unwilling to go into the community retail practice of pharmacy because it can be demanding, pressure-filled and yes, even dangerous.

If you are interested in pursuing this subject, I would be happy to assist you. Pharmacists are absolutely unique as health care professionals. All we are asking for is an objective look at the total picture, instead of the one-shot impression which you gave in your quest to make a point about prescription drug prices.

Sincerely,

David Banta

David A. Banta
Executive Director

The Maryland Pharmacist
650 W. Lombard Street
Baltimore, Md. 21201

To the Editor:

I enjoy reading THE MARYLAND PHARMACIST. The October 1978 issue is again a potpourri of pharmaceutical selections. The article: "Skin Disease and its Treatment," a background paper from Upjohn is succinct.

I do have a bone to pick. In section II the following statement occurs: "For persons with skin diseases, baths often involve lukewarm water only, with a minimal exposure to soap or hot water. Over-the-counter or home remedies play little part in therapy."

The very next paragraph proceeds to recommend: ". . . Compresses of clean cotton cloths soaked in 5 percent aluminum acetate (Burow's Solution)" . . .

This product is a readily available OTC as: Buro-o-Sol®, Bluboro®, or Domeboro®. These products may be diluted to varying concentrations which may closely approximate Burow's Solution, U.S.P. In fact, these products may be the only readily available Burow's Solution.

Further, most of the Tar (Coal Tar) shampoos are OTC (Zetar®, Tersa-tar, DHS Tar Shampoo). The Selenium Sulfide 1% or Zinc Pyrithione products, touted in the article, are OTC.

The caveat that OTC remedies play little part in therapy seems somewhat empty. Indeed recent (last 10+ years) pharmacy school graduates should be well versed in the uses, expected hazards and limitations of OTC products. We should promote the services of pharmacists as a source of information and medication, not just in the area of Federal Legend Drugs but also in areas of patient self-medication.

Sincerely,

Hoar

M. E. Hoar
Assistant Professor of Pharmacy
Massachusetts College
of Pharmacy

Dear Dave:

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Sincerely,

Earl DeRamus

C. Earl DeRamus, R.Ph.
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**Blue Cross
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THE MARYLAND PHARMACIST

Official Journal of
The Maryland
Pharmaceutical
Association

FEBRUARY, 1979
VOL. 55
NO. 2

Mechanisms and Management of Immediate Hypersensitivity

–James E. Peters, Ph.D. *(self evaluation quiz)*

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Maryland Pharmacy in Action — Pictures

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FEBRUARY 1979 VOL. 55 NO. 7

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President's Message

Strength and Activity

The Maryland Pharmaceutical Association is a strong and active organization working on your behalf. Every person in this country is a member of a "special interest" group. Even though the news media would have us believe otherwise, special interest groups perform a valuable function. Our special interest group competes with others for the very survival of the practice of pharmacy. I know that sounds a little over-dramatic, but it is, nevertheless, true. The Association is as strong as it is because of the people who are reading this article — the dues paying members. Without you, there would be no progress, no leadership and no accomplishments. However, there is always room for improvement. For example, Med-Chi, the physician's state Association, has an annual budget over ten times greater than the MPhA's. Next time you put off paying your dues notice, or pick up the telephone to complain, remember that the Association is only as strong as the strength of the commitment from its members.

The Association is active on your behalf — active again in the state legislature. Recently an announcement was made asking members to contact the office if they have connection with state legislators. The January issue carried the names and addresses of our representatives in the General Assembly. I want to underscore that request. It is essential that you let the office know if you have contact, either through family, friends or pharmacy patrons, with any of our state legislators. This information can help us all in an emergency.

Mechanism and Management of Immediate Hypersensitivity

James E. Peters, Ph.D.
University of Maryland
Department of Pharmacognosy
School of Pharmacy

Introduction

The incidence of diagnosed immediate hypersensitivities or acute allergy related medical problems is currently not decreasing. Allergic rhinitis, the most common respiratory hypersensitivity affects 8-10% of the U.S. population in the forms of hay fever and chronic rhinitis. Recent studies have indicated up to 7% of patients with untreated rhinitis eventually develop allergic (extrinsic) asthma. Also untreated patients may develop complications of chronic otitis media, hearing loss, sinusitis, nasal polyps, and in children, orofacial dental deformities. Clearly, immediate hypersensitivities and their complications are neither insignificant nor uncommon problems.

Classification of Hypersensitivity Reactions

In 1902, Portier and Richet discovered that it was possible to increase an animal's susceptibility to a specific antigen or foreign protein by continued low dose exposure. Because this phenomenon was contradictory to the recognized protective effect of immunization they termed this condition anaphylaxis (against protection). Later, von Pirquet introduced the term allergy which meant an altered protective or a pathologic effect which developed after exposure to a particular antigen. Today, the immediate pathologic responses of an individual to a specific antigen are grouped into three basic reaction patterns (Table I) and termed "immediate hypersensitivity states". The term hypersensitivity refers to a heightened immune reactivity to a particular antigen. Commonly, the terms Type I immediate hypersensitivity and allergy are used synonymously and are used to describe conditions and symptoms which occur quite rapidly (within hours) after exposure to a sensitizing antigen.

The Type I immediate hypersensitivities are mediated through IgE immunoglobulin (homocytotropic antibody) which is produced in response to exposure to a specific antigen. The IgE molecule, like other immunoglobulins originate from plasma cells and consists of four polypeptide chains, two heavy chains and two light chains (Fig. 1). The terminus of the Fab portion of the molecule makes up the antigen combining sites while the Fc portion is responsible for binding to cell surfaces and provides for tissue localization. The production of significent IgE serum levels is antigen dose dependent and is encouraged by low antigen exposure.

Receptors for binding determinants in the Fc portion of the IgE molecule reside on the surface membranes of tissue fixed mast cells and circulating basophils, both of which possess significant amounts of pharmacologically active mediators (histamine, SRS, etc.) of hypersensitivity reactions (Table III). The IgE receptors on mast cell surfaces do not distinguish between IgE molecules on the basis of their antigen specificity, therefore, IgE molecules of any and all antigen combining specificities can occupy positions at the surface of all mast cells. In humans, large populations of mast cells, which can be coated with IgE are found localized in the endothelium of the mucosal tissues of the nasal, bronchial and intestinal tracts.

Nature of the Hypersensitivity Reaction

When an allergic or hypersensitive individual inhales or ingests certain antigenic materials, a specific IgE is produced by his plasma cells. For example, when a pollen grain is inhaled, antigenic proteins are released by hydrolytic lysozymes in the nasal secretions. These antigenic proteins diffuse across the mucosal membranes into the blood stream where they stimulate antibody producing cells residing in local lymph nodes. After IgE is produced it circulates in the blood stream and finally attaches via the Fc portion to the surface of mast cells and basophils. This renders these cells and the tissue containing them potentially reactive to the sensitizing antigen.

If the antigen is reintroduced into the system by inhalation or parenterally, it can combine with IgE molecules bound to the mast cell surface resulting in the release of granule localized histamine and other mediators into the extracellular fluids, and thus, pharmacologic mediation of the hypersensitivity reaction begins (Table III). The severity of the symptoms due to histamine release is dependent on the distribution of mast cells in the tissues and concentration of bound IgE and antigen. In man, large numbers of mast cells are found in the upper respiratory tract, thus many symptoms are related to fluid accumulation in the sinuses and lungs, irritation of nasal mucosa, sneezing, and breathing difficulty. Sometimes when specific antigens are reintroduced parenterally into a hypersensitive individual, complete respiratory shutdown may occur due to constriction of the bronchi. An example of this is anaphylaxis caused from a bee sting or IV penicillin administration. In general, anaphylaxis is considered a severe Type I immediate hypersensitivity reaction.

In Summary, immunologically mediated release of histamine, serotonin and SRSa causes an accumulative smooth muscle contraction manifested by bronchoconstriction, separation of respiratory epithelial cells, edema, increased mucous secretion as seen in rhinitis and possible vasomotor collapse as seen in anaphylaxis.

Antigens Responsible for Immediate Hypersensitivities

The antigens (allergens) responsible for allergic rhinitis and extrinsic asthma are almost exclusively airborne. The most important aeroallergen in the Central Atlantic States is ragweed pollen.

TABLE I

Characteristics of Immediate Hypersensitivities

NAME	ANAPHYLACTIC	CYTOTOXIC	COMPLEX MEDIATED
Reaction Type	Type I	Type II	Type III
Types of antigen illiciting effect	exogenous; pollens drugs, bee venom	exogenous; red blood cells	endogenous; basement membrane antigen
Antibody class involved	IgE	IgG	IgG
Response to intradermal injection of antigen			
Appearance	wheal and flare	---	edema
Time	30 minutes	---	3-8 hours
Histology	degranulation of mast cells	---	PMN leukocyte infiltrates
Example	anaphylaxis, hay fever	blood transfusion incompatibility	Farmer's lung

A single ragweed plant can produce 2 billion pollen granules and collectively, during the pollen season, as much as 250,000 tons of pollen become airborne in the United States. Plant allergens known to be present in Maryland are shown in Table IV. Other allergens responsible for allergic rhinitis are fungal spores, animal danders, and house dust. Allergy to house dust probably represents a sensitivity to a large group of antigens such as fragments of fabrics, furniture stuffing and pet hair. The excretory products of insects and household mites have also been implicated as potent allergens. Usually a history of sneezing, rhinorrhea or mild asthma whenever one's house is cleaned or beds are made is an indication of a hypersensitivity to household dust.

Antigens responsible for anaphylaxis are those which may be introduced parenterally into a sensitive individual. Common antigens responsible for human anaphylaxis are bee and wasp venom and IV penicillin. By far penicillin is the major drug product to cause anaphylaxis. Other drugs can cause an adverse reaction but the majority of drug related allergies are not true IgE mediated hypersensitivities.

Management of Immediate Hypersensitivities

The allergic reaction and atopic symptomatology are due primarily to the release of chemical mediators following the reaction of a specific antigen, such as ragweed pollen, with a specific antibody. Three distinct methods can be used to ameliorate the hypersensitivity reactions: the first,

TABLE II

Common Type I Hypersensitivities

MEDICAL NAME	COMMON NAME
Allergic rhinitis	Hayfever
Extrinsic asthma	Asthma
Atopic dermatitis	Eczema
Anaphylaxis	Drug allergy, bee venom allergy

avoidance therapy, consists of avoiding exposure to the antigen so that no reaction takes place; the second, hyposensitization, actually stops the allergen-IgE binding from occurring; and thirdly, therapeutic intervention, blocks the physiological effects of the chemical mediators of hypersensitivity reactions.

Because avoidance of an offending allergen essentially results in a cure of a specific allergy, every attempt to minimize allergen contact should be made. This can be done by spending the peak pollinating months predominantly indoors with air filtered by a specialized air conditioner. Also atopic individuals could travel each year to an area where the offending allergen is not present. Other methods of avoidance therapy include removing sensitizing fabrics, dust or pets from the home environment.

Hyposensitization has been widely used in the treatment of seasonal allergic rhinitis since 1911. Recent studies have indicated this type of immunotherapy will produce beneficial results in 70-80% of the atopic patients with rhinitis. Such patients are not totally cured but they have fewer symptoms which are easily controlled by pharmacologic measures. Hyposensitization is done only after the offending antigen is identified by intradermal or patch skin testing. It is carried out by repeatedly injecting small, but increasing amounts of allergen subcutaneously into an atopic individual until a maximal tolerated dose is reached (maintenance dose). The initial doses are usually given once or twice a week until the maintenance dose is achieved. Thereafter the maintenance dose may be administered only once a month.

The mechanism of hyposensitization is believed to involve the initiation of IgG (gamma globulin G) production by the atopic individual. This IgG, specific for the allergen, is able to circulate in the blood stream and neutralize (bind) any allergen before it has a chance to react with mast cell bound IgE and release histamine. This form of IgG is commonly called "blocking antibody".

Drug therapy for acute allergy reactions is predominantly symptomatic. Acute allergic rhinitis may be controlled by proper administration of antihistamines. These agents can produce drowsiness and gastrointestinal upset and are not recommended with cotherapy involving sedative or sedating medication. Since individuals exhibit therapeutic variability to antihistamines, individualized dosage is very important.

TABLE III

Mediators of Immediate Hypersensitivity Reactions

MEDIATOR	PHYSICAL ACTIVITY
Histamine	Constriction of bronchi, increase capillary permeability, dilatation of capilliaries
SRSa (slow reacting substance)	Prolonged bronchiole constriction, increased vascular permeability
Bradykinin	Increased vascular permeability and smooth muscle contraction
Serotonin	Dilatation of capillaries and bronchial constriction

Sympathomimetic drugs are also widely used in allergic rhinitis therapy. Topical agents which stimulate alpha adrenergic receptors (Phenylephrine) tend to reduce the edema of nasal mucous membranes by constricting local blood vessels. However, individuals with hypertension, angina pectoris and hyperthyroidism should be monitored carefully when taking these agents. Drugs which stimulate beta adrenergic receptors (Isopropterenol) cause bronchodilation, thus reducing bronchial constriction and congestion. In addition to their use as decongestants, sympathomimetic drugs are often combined with antihistamines in oral preparations in an effort to decrease antihistamine dosage and side effects.

Nose drops or sprays containing sympathomimetic agents lend themselves to easy abuse by overdosage. The topical application of these agents is often followed by "rebound" whereby the nasal membranes become even more edematous than prior to initial therapy. This situation often leads patients to use the drops or spray even more in order to obtain relief. The resultant condition is termed "rhinitis medicatamentosa". Usually abrupt discontinuance of the sympathomimetic agent is necessary to alleviate this condition.

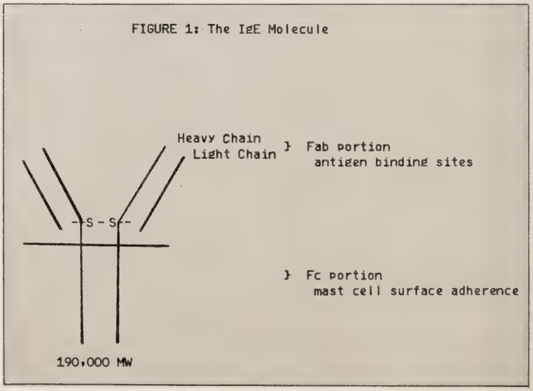
The most serious complication of immediate hypersensitivity reactions is the systemic reaction or anaphylaxis. When the reaction is a result of an injected allergen (penicillin or bee sting), the emergency treatment of this reaction involves placing a tourniquet above the site of the injection.

TABLE IV

Common Pollens Causing Respiratory Allergies in the Central Atlantic States

WEEDS	POLLINATION TIME
Ragweed	August-September
Plantain	May-August
TREES	
Cotton Wood	March-April
Elm	March-April
Birch	April-May
Hickory	April-May
Sycamore	April-May
Oak	April-May
GRASSES	
Bermuda	May-October
Fescue	May-July
Timothy	June-July
Rye	May-July

FIGURE 1: The IgE Molecule



Drug treatment consists of 0.1-0.3ml of 1:1000 epinephrine given in the opposite arm or limb and repeated 15-30 minutes later if needed. It may also be helpful to inject 0.1-0.2 ml of epinephrine into the injection site of the antigen to produce vasoconstriction, thus slowing its absorption. Following epinephrine therapy, an oral antihistamine may be administered.

Cortisone and its analogs have markedly beneficial effects in the management of a variety of allergic reactions. A significant part of their anti-inflammatory activity consists of decreasing capillary permeability which decreases local edema formation. This anti-inflammatory action is also associated with a depletion of leukocytes and stabilization of leukocyte lysosomes, thereby decreasing the concentration of tissue damaging enzymatic factors released from white cells.

However, the indications for the use of steroid therapy in the management of allergic rhinitis are few because of the potentially serious side effects, although they are used in allergic eczema. Since seasonal rhinitis does not produce serious immediate disabilities, steroids are only used during periods of marked increase in unmanageable symptoms. They are particularly useful in the management of rhinitis medicatamentosa during withdrawal of topical sympathomimetics.

In general, most symptoms of acute allergic reactions can be controlled therapeutically or immunologically. However, it is extremely important if an individual shows allergic symptoms to some aeroallergen that he seek medical help in view of the etiology of extrinsic asthma. Early diagnosis and vigorous treatment of all allergic symptoms is primary for proper management of immediate hypersensitivities. The potential contribution of the pharmacist to the management of immediate hypersensitivity, particularly allergic rhinitis, is great. The proper advisement of atopic patients on available antihistamine and sympathomimetic medications can have profound impact on the course of allergic rhinitis and can minimize its progression to extrinsic asthma.

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SELF-EVALUATION
QUIZ for
this Article
on Page 9

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Self Evaluation Quiz

Mechanism and Management of Hypersensitivity

by

James E. Peters, Ph.D.

Paste Label Here

Mail to: MPhA, 650 W. Lombard St.
Baltimore, Md. 21201

(1) The common name for allergic rhinitis is:
  a. eczema
  b. asthma
  c. anaphylaxis
  d. hay fever

(2) Hay fever is what type of hypersensitivity?
  a. Type I
  b. Type II
  c. Type III
  d. delayed hypersensitivity

(3) Which of the following classes of therapeutic agents are only used rarely to treat allergic rhinitis?
  a. alpha adrenergic agents
  b. beta adrenergic agents
  c. antihistamines
  d. corticosteroids

(4) The allergen (antigen) responsible for the majority of cases of allergic rhinitis in the United States is:
  a. Fescue pollen
  b. plantain pollen
  c. Timothy pollen
  d. ragweed pollen

(5) Immunoglobulin E (IgE) has an affinity for which type of cells?
  a. poly morphonuclear leukocytes
  b. monocytes
  c. neutrophils
  d. mast cells

(6) The most effective form of allergy therapy in regard to completely eliminating atopic symptomatology probably is:
  a. hyposensitization
  b. avoidance therapy
  c. drug therapy
  d. none of the above

(7) The mechanism of hyposensitization to a specific antigen is believed to involve the production of:
  a. mast cells
  b. histamine
  c. IgE
  d. IgG

(8) The initial drug of choice for the treatment of acute anaphylaxis is:
  a. antihistamine
  b. corticosteroid
  c. epinephrine
  d. phenylephrine

(9) Rhinitis medicatamentosa is a condition caused by the overusage of:
  a. oral antihistamines
  b. topical corticosteroids
  c. topical adrenergic agents
  d. oral sympathomimetic agents

(10) Alpha adrenergic agents are not recommended for allergic patients having moderate to severe:
  a. hypertension
  b. hyperthyroidism
  c. all of the above
  d. none of the above

Instructions for Self Evaluation Quiz

Since many states now have mandatory continuing education requirements for pharmacists and it is anticipated that Maryland will soon pass a similar law, the MPhA is providing this special quiz for members so that they may receive the most benefit from continuing education articles appearing in the MARYLAND PHARMACIST.

The MPhA staff will grade and record this and any future quizzes and keep them in a personal file for each pharmacist. A grade of 90% or above is required in order to receive a passing mark. If you fail the quiz, it will be returned to you and you may resubmit the quiz only once with corrections made in a different color ink than was used the first time.

The MPhA will correspond with any state where a member is registered that requires continuing education participation to verify that member's participation in this program.

When submitting quizzes, please observe the following:

1) Paste your current mailing label to the quiz before sending it to the MPhA office. Use the boxed-in space provided on the quiz front. Please use the label from *this* copy of the MARYLAND PHARMACIST only. This will serve as a membership verification.
2) Use business-size envelopes when mailing to the office.
3) Please submit this quiz and others as soon as possible after receipt.
4) Please use appropriate amount of postage.
5) Correct Quiz answers are available upon request from the MPhA office; call or send a self-addressed, stamped envelope with the quiz.
6) Remember — this is a free service for members of the MPhA only.

The MPhA will keep records for each participant and will issue a certificate annually showing the number of quizzes which have been successfully completed. Watch for other continuing education articles and quizzes in future issues of the MARYLAND PHARMACIST.

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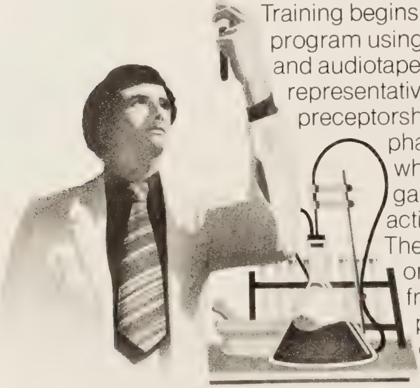

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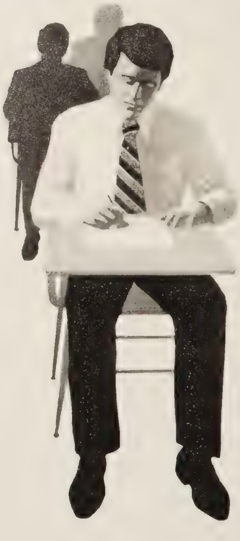

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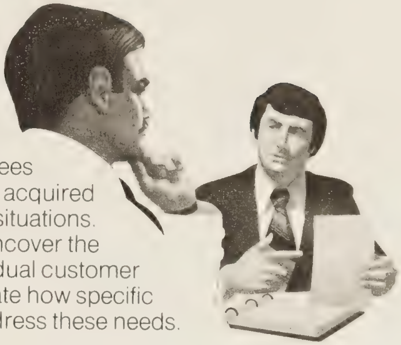

10 HOURS: TESTS AND EVALUATIONS

Every step of the way, trainees are checked to be sure they have properly assimilated the information presented to them. Evaluations are made on the basis of oral and written tests and on the trainee's performance in "role-play" selling situations.

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USP DRUG PRODUCT PROBLEMS REPORT*

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Diagnostic Error

An in-vitro diagnostic used to test for sugar in the urine had an incorrect package insert belonging to another form of the same product. The incorrect insert would have resulted in an inaccurate interpretation of test results. When an Indiana community pharmacist's observations were brought to the attention of the manufacturer through the DPPR program, the lot involved was recalled.

Spell It Out

A unit dose package of Phenobarbital Tablets was labeled with only an abbreviated form of the drug name, "pheno". A Rhode Island pharmacist pointed out that this common two syllable prefix could denote several drugs or chemicals. The manufacturer reviewed the situation after receiving the report and redesigned the unit dose labeling to show the entire name.

What's The Score

A suburban Washington, D.C. pharmacist telephoned a report on tablets used for myasthenia gravis. He estimated that one out of every four times, the top of the tablet would cap when trying to break the tablet in half at the score mark. The manufacturer sent a copy of the report to its production department for comment and evaluation. The production department noted a new set of punches was being used in the tableting process, that the score was not as deep as with the old punches, and this might have caused the problem. They discontinued these punches and ordered a new set of deep score punches.

One Coat Does Not Fit All

Two lots of an antihypertensive were recalled when a New York pharmacist reported he had found a variation in the individual tablet identification numbers. The firm determined that two strengths of the tablet had been firm coated the same color and packaged together although the respective product numbers were correctly stamped into the tablets. Their normal control procedures had not caught the error.

How Do I Count The Ways . . .

Two reports concerning split tablets with an odor led to an investigation by the FDA of a steroid-vitamin product. As a result of this investigation a seizure action was initiated by FDA charging several violations of the Federal Food, Drug, and Cosmetic Act. The charges were based on the failure to analyze for the steroid active ingredient, labeling violations, and that the product was a new drug without an approved New Drug Application

Hypodermic Tablets Obsolete

The manufacturer of a narcotic analgesic discontinued the use of hypodermic tablets, but three years later was no longer specifying on the label that the tablets were "for oral use only". The new tablets contained inert fillers and dyes and were no longer to be used IM. A consultant pharmacist for a Texas hospital reported the hospital staff had been trying with difficulty to dissolve the tablets for IM use. The company notified the pharmacist and USP that the labels would be amended to state again "for oral use only."

Neither Too Hot Nor Too Cold

The hard gelatinous precipitate in an aluminum magnesium suspension was reported by a Kansas pharmacist as being difficult to resuspend. An FDA inspection of the firm revealed that the storage of the product at temperatures too hot or too cold would cause the product to precipitate. The specific temperature range was not given on the label, only to "avoid freezing." The firm said it will include a more complete storage statement in the next label printing.

Antidote Anecdote

A North Carolina hospital pharmacist pulled a bottle from a case of a topical antiseptic solution for the infant umbilical area and found that it was labeled as syrup of ipecac. The label was apparently incorrect and the contents did appear to be the antiseptic. There was immediate concern that bottles of antiseptic labeled as ipecac would be used when ipecac was hurriedly needed in an emergency poisoning situation. The firm was unable to determine the extent of the mixup and issued an urgent recall letter.

Name Game

Several reports from pharmacists around the country pointed out that the same brand name was being used for three different dosage forms of a product and that the dosage forms contained different active ingredients. The ingredient in the liquid dosage forms was aminophylline; but the solid dosage form contained theophylline. The reports indicated this caused confusion in converting from one form of the brand product to another, in generic prescribing and in product selection. A regulatory letter citing misbranding was issued by the FDA to the manufacturer.

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*This report covers some of the recalls, product improvements, and explanations to which the Drug Product Problem Reporting Program has contributed. The product and company names are omitted; and no reflection on any specific manufacturer, distributor, reporter, or product is intended or should be inferred from the case studies. It is hoped that these examples will indicate to the reader some of the problem areas where he or she may want to be alert; e.g.: package insert information, package designs, labeling, unusual or improper drug product appearance.

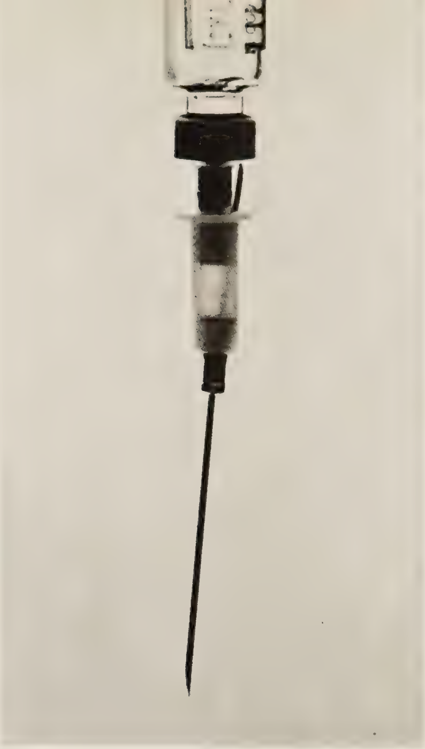
Syringe Graduates

After an injectible antispasmodic became available in prefilled 2 ml syringes, several hospital pharmacists reported that the syringe lacked graduated markings for a partial dose. They furthermore noted that the label stated the amount of drug present in mg per ml without making clear there were 2 ml present in the unit. The manufacturer plans to use calibrated syringes in the near future.

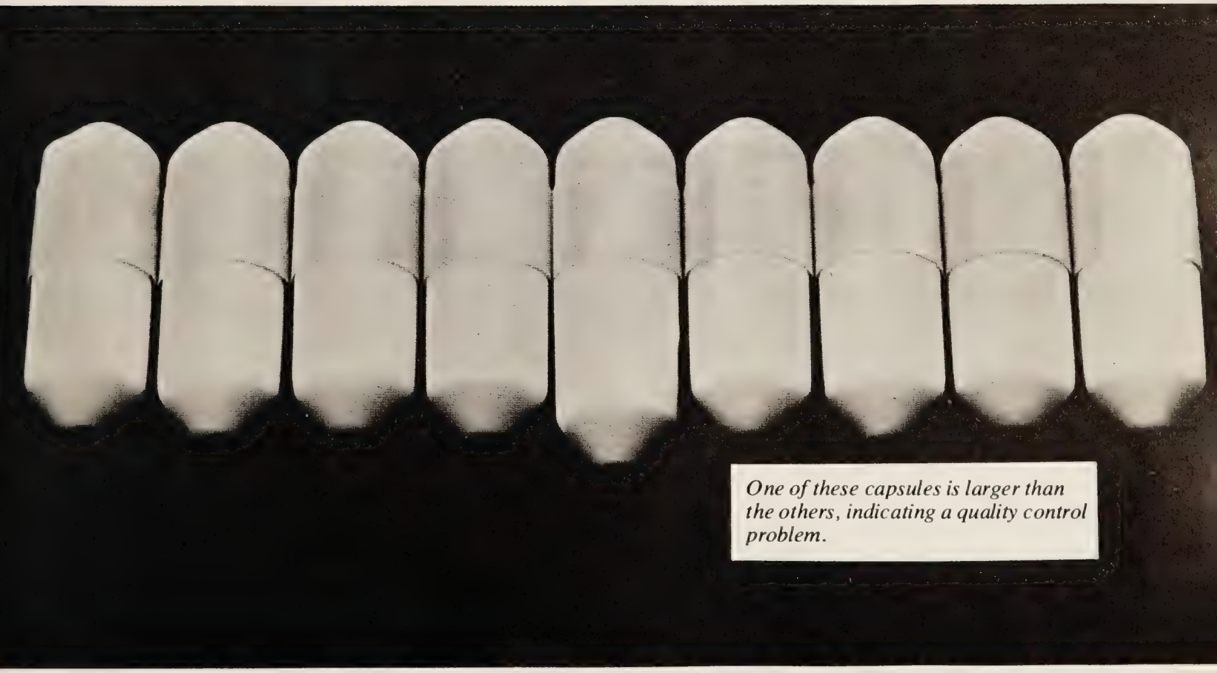
Box-Work Orange

An Oregon pharmacist prophesied that in a tense situation, hospital personnel would mistake the units of drug per ml declared on the label as the amount of drug present in the 0.5 ml syringes. Although the prefilled 0.5 ml syringes of heparin correctly listed the units per 0.5 ml on the label also, it was done in orange print; the number of units per ml were listed in bold black print. To avoid this possibility the manufacturer deleted the "units per ml" statement on the boxes of the various strengths of heparin syringes.

Pictures from FDA Consumer / September 1978



The needle in this injectable drug dosage unit is off center and thus won't deliver the drug dose.



One of these capsules is larger than the others, indicating a quality control problem.

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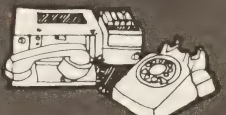

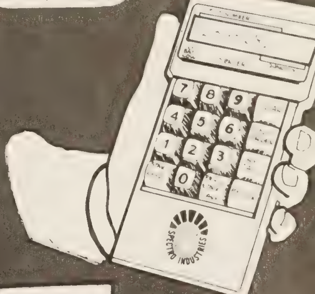

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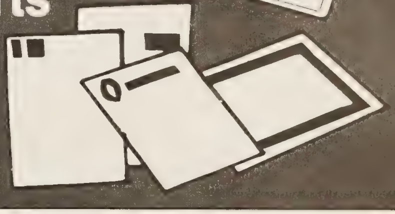

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The Maryland Pharmaceutical Association Board of Trustees met in the Kelly Memorial Building January 4th to start the new year. Do you know the Board of Trustee member from your area?

Maryland Pharmacy in Action:

Pictures courtesy of
PARAMOUNT PHOTO SERVICE

Veteran Druggists participated in an informal program. Members of the Association volunteered to assist in a drug education program conducted at senior citizen centers in Baltimore.

The Baltimore Veteran Druggists Association installed new officers at its Christmas party.

The University of Maryland SAPhA Chapter tackled the task of cataloguing the books in the Kelly Building Library. The job took over two full days of effort.

The Executive Committee of the Baltimore Metropolitan Pharmaceutical Association met January 11th and discussed final plans for the annual banquet to be held February 11th at the Blue Crest Restaurant in Baltimore.

A Record in Pictures

The Executive Committee of the National Association of Retail Druggists (NARD) invited the Executive Directors and Presidents of several state associations to meet and discuss issues. Stan Yaffe and David Banta represented Maryland (left side of table).

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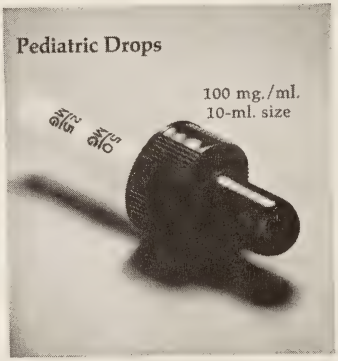

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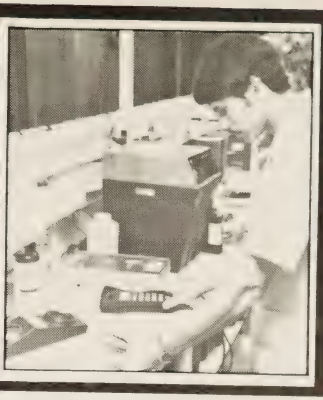

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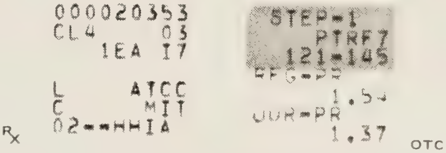

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CL4       03
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L      ATCC
C       MIT
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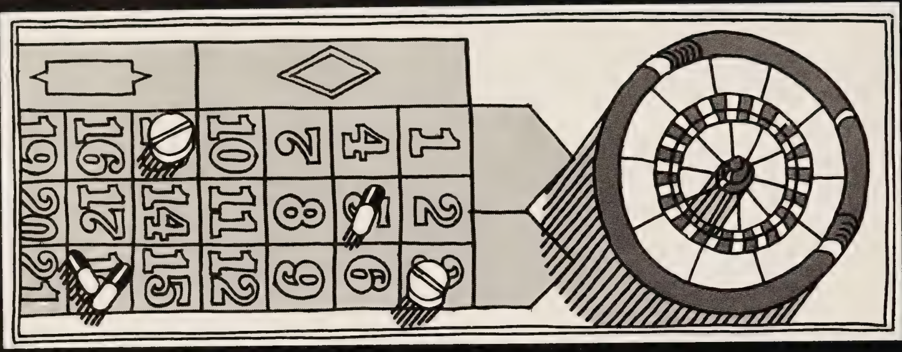

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NAME	AGENCY	ADDRESS	PHONE NO.
John O'Hara	Dept. Health & Mental Hygiene Division of Drug Control	201 W. Preston St. Baltimore, Md.	383-2727
Kathleen M. Watt	Comm. of Virginia Board of Pharmacy	12552 Forest Hill Road Woodbridge, Va. 22192	703-494-2482
Arnold L. Dickman	Medical Assistance Compliance Division	201 W. Preston St. Baltimore, Md.	383-7377
Ralph Clements	Balto. City Police Dept.	601 E. Fayette St. Balto., Md. 21202	396-2724
Gregory W. Ruff and Joseph McKinney	Army C.I.D.	1851B Patton Dr. Ft. Meade, Md. 20755	677-6446
Dean A. Hyde and Stuart L. Hurrin and Paul Ponzelli	Metropolitan Police Dept.	300 Indiana Ave. N.W. Washington, D.C. 20001	626-2996
Paul Hajek	Howard County Police Dept.	3410 Court House Drive Ellicott City, Md.	992-2215
Harold Dieter	Drug Enforcement Adm.	Federal Building Baltimore, Md.	962-4800
Jim White	Prince George Co. Police	3415 N. Forest Edge Rd.	336-8800 x. 6684
Jim Badey and Terry Brown	Arlington Co. Police Dept.	2100 N. 15th St. Arlington, Va. 22207	558-2265
Fred Settle	Maryland State Police	Reisterstown Road Pikesville, Md.	944-5030
Robert Tobin and Dusty Rhodes	Montgomery County Police Dept.	60 Court House Square Rockville, Maryland	279-1688
John Santana	Anne Arundel County Police Dept.	Route 3, Northbound Lane Millersville, Md. 21108	987-4050 x. 207

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IRS Lists Tax Help For Small Businesses

Details. Every business owner has to cope with them. Things like work scheduling, inventory control and meeting federal tax requirements can make or break a small business.

And because there always seem to be so many new details to worry about —like changes in tax reporting requirements—the Internal Revenue Service offers several types of taxpayer assistance to small business owners.

What kinds of assistance? One type is the "Your Business Tax Kit," a starter set for new small business taxpayers. It contains blank forms and instructions, filled-in samples, and publications, including the comprehensive 192-page "Tax Guide for Small Business." The IRS has even added a tax calendar to make planning deadlines easier.

While the "Tax Guide" may be the longest publication IRS offers to small business owners, it is not the only one. The tax agency distributes more than 90 publications on tax issues of all types. Many will apply to the small business taxpayer, such as those dealing with depreciation, deferred-payment sales, accounting periods and methods, and sales or other dispositions of assets.

The IRS also sponsors workshops for those who would prefer to hear, rather than read, about taxes. At these workshops, IRS specialists review major reporting requirements and answer individual questions. They also cover such topics as the Jobs Tax Credit, the selection of tax returns for examination, and the records a business taxpayer should keep. The IRS can provide a schedule of upcoming sessions. Registration can be completed by sending in the Small Business Tax Workshop card which accompanies the employer identification number all business owners must have.

Another type of free information IRS offers is its films. Local business organizations can borrow 27½ minute films free of charge from IRS offices. One of these films, "Hey, We're in Business," is directed specifically at the rights and responsibilities of the small business owner. Another film for general audiences also is available. "The American Way of Taxing" presents a picture of today's tax system in a historical context.

Of course, business people, like all taxpayers, can take advantage of IRS's regular taxpayer assistance operations. Both offices and toll-free telephone lines are open year-round and staffed by trained personnel.

If you are engaged in farming or commercial fishing, these same basic IRS services are available. In addition, the "Farmer's Tax Guide" (IRS Publication 225) and the "Tax Guide for Commercial Fishermen" (Publication 595) have been designed to answer your questions. Both are available from IRS offices.

One last word for small business owners who feel they may be headed for tax trouble: see the IRS as soon as possible. In fact, see them *before* it happens. Usually the IRS can work with the business owner to satisfactorily resolve a problem before it becomes complicated.

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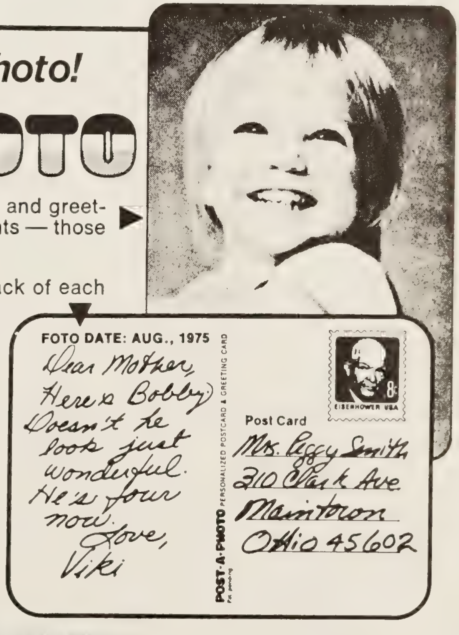
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LETTERS

The Honorable Congressman Clarence Long
Chesapeake and Washington Ave.
Towson, Maryland 21204

Dear Congressman Long:

The newly enacted Medicare laws, along with the previously standing ones are making it difficult for suppliers like myself to assist Medicare patients by accepting assignment for durable medical equipment. By assignment, I mean that we bill Medicare for 80% coverage, handling the paperwork, while the beneficiary pays their 20% deductible.

Here are some of the new rulings and the problems created for the small businessman.

1. Medicare will now pay for rental or purchase only at the lowest 25 percentile level. Prior to this we were paid at the 75 percentile level.

   Problem: Obviously the average for our area would be at the 50 percentile level. This may save Medicare some money but it puts a strain on the small vendor. Only the national rental chains may be able to afford to bill Medicare for lower than their everyday cash prices.

   According to Mr. Ron Wren in Philadelphia (can be reached by locally dialing 594-9302) this was part of a 1972 amendment and can only be changed by Congress. It will apply to hospital beds and wheelchairs now but will spread to other items in the future.

2. Soon, when the rental price equals the purchase price, the vendor will relinquish title to the equipment.

   Problem: If, for example, it takes twelve months for the rental price to equal the purchase price, is it realistic to expect the dealers to submit twelve separate monthly billings, wait for twelve separate payments, handle twelve booking transactions (providing there is no delay in payment due to certification form procedures, misfiled claims, deductibles not met by patient, etc.) to finally be paid only an amount equal to the original purchase price? It's tough enough now for the small businessman without additional burdens from the government.

3. Prices paid by Medicare are 18 months behind current billing.

   Problem: With today's inflation rates, both in manufacturing and shipping charges, and not including the vendor's increased overhead, many manufacturers and distributors are increasing their prices twice yearly. In many cases, Medicare's computers are three price changes behind.

   I presented this problem to Mr. Wren, who by the way was very helpful. He said under the new 25 percentile provision, it will be required of the carrier (Blue Cross in Maryland) to update its computers so that it will be between only 3-6 months behind at any given time. He thought this would offset our loss by the new lower percentile method. I pointed out that this was completely wrong. Even two price changes would not offset a 50 percentile decrease in the price Medicare pays. Also a Blue Cross employee was doubtful that the prices could be updated to that current a level.

4. Vendors can no longer call Medicare to find out if a patient has met the deductible for the year. This is now considered an invasion of privacy.

   Problem: Without this information, the vendor is reluctant to accept assignment. Often the patient is confused as to what constitutes their basic deductible or whether or not it has been met. If the vendor takes the patient at his word that it has been met, and this is wrong, it requires additional bookwork to recoup the amount (if the patient is able or willing to do so). The vendor has nothing to gain if the information were made available.

Enforcement of the above can only make the vendor reluctant to accept assignment. The Medicare patient, already on a fixed income, will eventually bear the brunt of these well meaning but impractical rules. If the patient is unable to have vendors accept waiting for 80 percent rental or purchase and he cannot afford to lay out 100 percent himself, it will be the patient who is the loser, either by doing without or by having to settle for an inferior grade item that will fall dollarwise into the Medicare price range. An example of the latter that is happening now on the state Medicaid level is the low wheelchair purchase price. Only the flimsiest model can qualify and probably will have to be replaced yearly at best. The state is aware of this but can do nothing because of the fixed price guidelines. The same thing may result on the Federal level if price becomes the only criteria.

5. Only Durable Medical Equipment qualifies for payment under Medicare. Braces and supports must be rigid or firm in composition.

   Problem: This excludes elastic stocking, elastic knee, elbow, ankle, abdominal supports as well as foam collars and rib belts. No one wears any of the above unless it is a medical necessity, but since they are not rigid by Medicare's definition, they are denied. Surgery for varicose veins is covered but not stockings that may help prevent the operation. Even to prevent blood clot formation is not good enough. The same is true for abdominal surgery.

6. Though durable in nature, bathtub safety equipment such as grab bars, rails and shower stools are not payable under Medicare benefits. They are classified as assistive devices or convenience items.

   Problem: Patients need these devices if they are unstable on their feet. Yet Medicare will pay for walkers, canes, crutches and wheelchairs for those having difficulty walking without assistive devices. However, when these same patients need to step into a slippery tub, the coverage no longer applies. This is an obvious fallacy in the law.

7. Home Biofeedback units are not payable by Medicare even though it is a medically sound principle and covered by many private insurance companies.

   Problem: A stroke patient is completely covered in hospital, for his doctor's visits, partially covered for physical therapy outpatient benefits. However, a self help home unit that aids to retrain muscles and provides motivation, helps cut long term medical expenses, is denied. I have been informed that the Public Health Service has not given its approval to Biofeedback. I would like to point out that Medicare was years behind the medical profession in recognizing electrical nerve stimulators as good sound rational treatment for specified conditions. Biofeedback home units are also useful for orthopedic problems such as lumbar and sacral pains, muscular spasms, tension headaches and certain breathing problems.

These are not the only problems that we providers of services to Medicare have. However, I feel that a solution to these will go a long way forward in benefiting both the patients and the providers. I realize that your schedule is busy, but I would appreciate your checking into this situation.

Sincerely,

Albert Lichtman, R.Ph., C.F.

Fourteenth Annual

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Maryland Society
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Pharmacy School Wins Grant

Three researchers in the University of Maryland Schools of Pharmacy and Medicine have been awarded a $125,000 National Institutes of Health grant to further investigate their new approach to creating radioactive drugs.

The first phase of the grant was awarded in 1976 for the creation and patenting of two basic compounds — iminodiacetic acid and 8-hydrozquinoline — as linking agents to make completely new diagnostic preparations. As a result of this research, Dr. Michael Loberg, Dr. Patrick Callery, and laboratory scientist, Anna Fields found ways to modify the compounds so that they would bind the radioactive metal Te-99M and at the same time would concentrate these compounds in specific organs in the body.

The three year renewal grant will be used to develop enough scientific evidence to predict the distribution of the radiopharmaceuticals for the localization of cancer and diagnosis of ischemic heart disease.

Dr. Loberg, who is also director of the School of Pharmacy's Central Radiopharmacy Service, says that various radioactive drugs are currently being tested in laboratory mice and rats. The development of these new organ and disease-specific radiopharmaceuticals will be a significant breakthrough in the diagnosis of cancer and heart disease. Ultimately, the drugs will be tested in humans and additional funding will then be sought to complete clinical trials.

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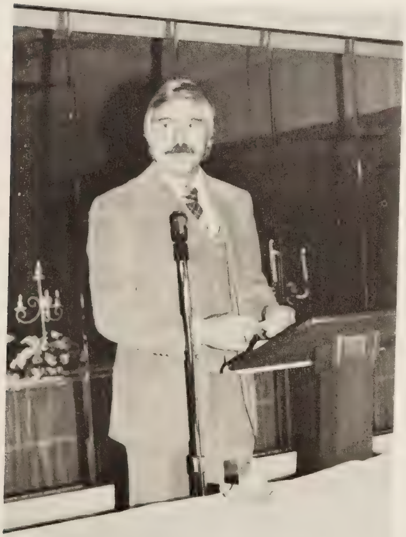
Anne Arundel County Installs New Officers

The 1979 officers of the Association pose shortly after the installation. The banquet was held at the Empire Towers in Glen Burnie.

Nathan Schwartz, MPhA and Anne Arundel County Pharmaceutical Association Past President acted as toastmaster for the January 14th installation banquet.

Pictures courtesy of
PARAMOUNT PHOTO SERVICE



Ronald Williams, Director of APhA Subdivisions, brought greetings from the national Association and installed the officers.

Vincent Regimenti (right), outgoing President of the Association presented Dean William Kinnard (left) with a contribution from the Anne Arundel County Pharmaceutical Association.

A lot more goes into Abbott drug products than simply drugs.

Gerry Hietala, Abbott research pharmacist, on flavoring:

"One 'yuck' from any of these panel members and it's back to the drawing board. This is the final, most critical test for flavoring in our suspensions. No matter how much effort goes into the flavoring system of a pediatric drug, this is the bottom line. Kids simply won't take a bad-tasting medicine.

There are two basic objectives in flavoring a suspension; first, naturally, you want to mask the drug taste. Erythromycin is a prime example. It's bitter. Second, you want to maximize flavor stability. Over a period of time even insoluable drugs will hydrolyze to a limited extent. The flavoring must be able to cover the increased bitterness to maintain palatability of the suspension.

We've developed a product that minimizes the amount of free erythromycin base that will develop, and we carefully control the quality of the starting drug. These two factors assure long-range stability . . . *and good taste* . . . when the product is out in the field.

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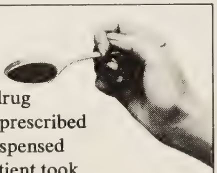

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S. aureus—Acute infections of skin and soft tissue of mild to moderate severity. Resistant organisms may emerge during treatment.

S. pneumoniae (D. pneumoniae)—Upper and lower respiratory tract infections of mild to moderate degree.

M. pneumoniae — For respiratory infections due to this organism.

Hemophilus influenzae: For upper respiratory tract infections of mild to moderate severity when used concomitantly with adequate doses of sulfonamides. Not all strains of this organism are susceptible at the erythromycin concentrations ordinarily achieved (see appropriate sulfonamide labeling for prescribing information).

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C. diphtheriae and C. minutissimum—As an adjunct to antitoxin. In the treatment of erythrasma.

Entamoeba histolytica—In the treatment of intestinal amebiasis.

L. monocytogenes—Infections due to this organism.

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Contraindications:

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Warnings:

Safety for use in pregnancy has not been established.

Precautions:

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Adverse Reactions:

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8013236

THE DESERTING PATIENT

WHY A HYPERTENSIVE LEAVES THE RANKS OF THE TREATED AND...HOW TO KEEP HIM FROM DOING IT.

"Patient compliance isn't easy to come by when a chronic asymptomatic illness is at issue."[1]

Hypertension, of course, is such a condition. And writing a prescription is only one of many steps in achieving effective blood pressure control. A drug works only if the patient takes it. Too often, hypertensive patients can't see a reason to follow a drug regimen and, therefore, do not comply.

Patient adherence can depend on the patient's understanding of his condition, and understanding often founders on the name of the condition itself. To many patients, the very term "hypertension" is thought to mean anxiety and tension. Curry and Finnerty[2] recommend giving a thorough explanation of hypertension to the patient, including the meaning of the blood pressure numbers and the complications that could ensue from neglecting treatment.

"Patients drop out for a number of reasons, sometimes before the treatment program has even begun."[1]

For the newly discovered hypertensive, the steps involved in a work-up can be major deterrents to cooperation. Experts indicate that hospitalization for expensive, elaborate work-ups is generally unnecessary.[2] Except where further diagnostic steps are clearly indicated, six simple office tests should suffice: urinalysis, serum potassium, BUN, cholesterol, glucose determinations, and EKG.[2,3]

Unrealistic diet and exercise programs which necessitate drastic changes in the patient's life-style can often be discouraging and can compound a patient's lack of cooperation. While modest salt restriction is usually desirable, severely restricting the salt component of a hypertensive's diet is generally unnecessary when diuretic medication is utilized.[3]

"Treatment during the phase of established hypertension generally involves the use of more than one drug. Finding the right combination for each person is critically important."[1]

Once a patient is started on drug therapy, questions, apprehensions, and fears may arise. These can be reinforced by side efects the drug may produce, particularly if he has not been forewarned about their occurrence. The patient is in particular need of reassurance at this time, and his future compliance may be jeopardized if it is not forthcoming. Moser suggests that the patient be told that the drug regimen can be changed to prevent these side effects. He goes on to say that "Virtually any procedure that simplifies therapy will increase compliance.[3]

Continuous education and reassurance is called for in the early stages of antihypertensive therapy. Starting the patient off carefully can make all the difference in whether he will stay with his regimen. Good patient adherence takes cooperation on the part of the patient and the understanding and time of the physician.

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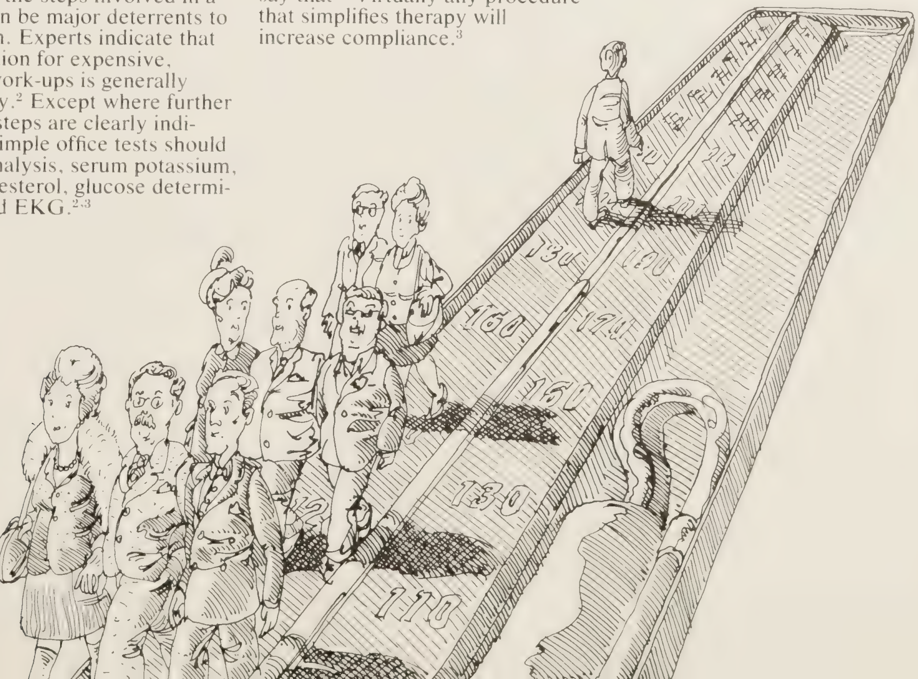
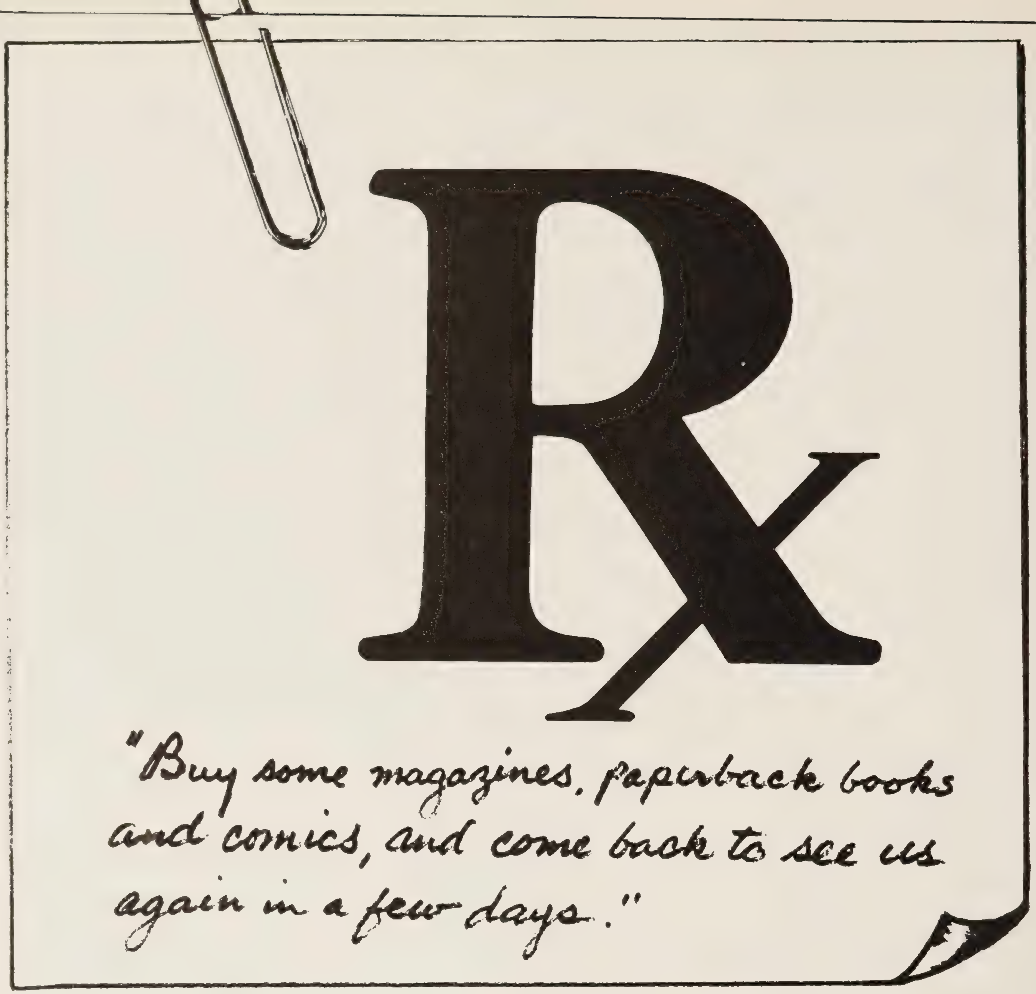
1. Kaplan NM Changing the hypertensive's life style *Practical Psych* **2**.42-50, January 1975
2. Curry CL, Eastman DG, Finnerty FA, et al The experts reply Treat hypertension to head off tragedy *Patient Care* **7** 58-103, November 1973
3. Moser M: The challenge of patient and physician compliance in hypertension. A simplified approach to treatment as one answer. *Clin Med* **82** 30-34, November 1975
4. Page IH: Egregious errors in the management of hypertension. *JAMA* **236** 2621-2622, December 6, 1976

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Mar. 19 — NARD Legislative Conference — Washington, D.C.
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April 21-26 — APhA Convention — Anaheim, California
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THE MARYLAND PHARMACIST

Official Journal of
The Maryland
Pharmaceutical
Association

MARCH, 1979
VOL. 55
NO. 3

Alcoholic Liver Disease

–American Liver Foundation

Vitamins, A Pharmacist's Guide to Facts and Fictions

–Madeline Feinberg, Pharmacy Student

HEW Report to Congress and the President on Pharmacists

THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET
BALTIMORE MARYLAND 21201
TELEPHONE 301/727-0746

MARCH 1979 **VOL. 55** **NO. 3**

DAVID A. BANTA, *Editor*
SHARON SPIES, *Assistant Editor*
ABRIAN BLOOM, *Photographer*

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Future Shock?

Pharmacy's traditional identity crisis continues to nag at us even as we enter into an era that is marked by our attempts to expand the scope of care which the pharmacists of the future may offer their patients. The identity crisis boils down to the question — are we businessmen or health care professionals? I believe there is room for us to be a little of each.

The point here is that, as we investigate new roles for pharmacists and the possibilities of providing additional services to the public, we have the right to receive just remuneration for those services. It is clear that we are not now being reimbursed at an equitable rate for what we are now providing; for a lot of reasons not necessary here. We must be permitted to make a living at the profession of pharmacy if we are to provide the elaborate pharmacy services now on the drawing board. Profit, far from being a dirty word, should be viewed as an absolutely necessary and legitimate factor as we redefine how we will practice pharmacy in the future.

There is, of course, little agreement among ourselves about what the future holds for us, or how we will evolve to meet these challenges. However, it is interesting to speculate. One point of view is represented by the HEW report on pharmacy printed on page 20 of this issue. I recommend that you read through their observations about us.

Also, take the time to think about how the Association fits into all of this. I believe the Association must remain relevant to all segments of this profession as decisions on our future course are made. It should function as the forum for discussion and decision. Through it, we may yet survive the divisive forces of change and emerge stronger, more united, and better able to serve the health care public, which is, after all, our highest goal.

Alcoholic Liver Disease

Definition and History

Virtually every known civilization since the Stone Age has used some form of alcoholic beverage for social or ritualistic purposes. Over many centuries it has been noticed that some of the users of alcohol have developed disease of the liver, the large vital organ of chemical control and processing located in the upper right corner of the abdomen.

The first disorder of the liver which was clearly recognized to result from prolonged heavy intake of alcohol was cirrhosis, a scarring and distortion of the liver accompanied by loss of its functional capacities and by an impedence to the flow of blood through it.

Another disorder, fatty liver, characterized by enlargement of the liver due to accumulation of droplets of fat within its millions of cells, has been known for decades to result from heavy ingestion of alcohol.

More recently, an acute and sometimes fatal inflammation of the liver, called alcoholic hepatitis, has been recognized as being caused by large amounts of alcohol. Alcoholic hepatitis, known as a disease for only about twenty years, is an inflammation of the liver tissue, especially around the venous blood outflow tracts in the liver substance, where many of the liver cells are injured and disintegrate.

For many years it has been hotly debated whether malnutrition rather than alcohol itself causes the liver disease, and it has been only in the past two decades that the alcohol and its metabolic derivatives have been more definitely shown to contribute to causing these liver diseases, in conjunction with possible nutritional, genetic, immunologic and environmental factors.

Symptoms and Development of the Three Alcoholic Liver Disorders

1) The person with established alcoholic cirrhosis often shows a rotund abdomen bloated with fluid called *ascites*, with thin arms and legs reflecting muscle wasting, a sallow yellowish color of the skin and whites of the eyes called *jaundice*, skin reddening of the face and palms, scattered small spider-like dilations of blood vessels especially over the head and upper trunk, loss of axillary hair, testicular softening and shrinkage and breast enlargement in men, and tendency to episodes of severe internal bleeding into the lower esophagus and stomach.

The cirrhotic patient may also show mental confusion or drowsiness which may deepen into *coma* (unrousable unconsciousness) at times of febrile infections, bleeding episodes, or after eating too much meat or other protein-containing foods.

Earlier stages of cirrhosis may cause only a single or a few of these abnormalities to show, or may be unnoticed for several years while the disease progresses in severity.

Not all heavy consumers of alcohol develop cirrhosis, and in fact, only 10 to 15 percent of the total number of confirmed "alcoholics" have cirrhosis. Alcoholism and alcoholic cirrhosis are not synonymous, but are independent, and may occur either singly or together.

2) Fatty liver often accompanies alcoholic cirrhosis, but may be seen alone in *any* person who ingests alcohol very heavily, even if only for a few days. It shows itself as enlargement of the liver, a right upper abdominal fullness and mass, often somewhat tender to pressure and sometimes slightly painful. Rarely, fatty liver may cause mild degrees of temporary jaundice, but the disorder is usually reversible within a few weeks.

Malnutrition alone, without any alcohol, can cause severe fatty liver, especially in children deprived of dietary protein. In such cases the protein deficiency may have fatal outcome, although timely and appropriate nutritional treatment can effect complete reversal and cure of both the protein deficiency problems and the fatty liver, without leaving residual cirrhosis. By contrast, alcoholic fatty liver cannot be cured by good diet alone, unless alcohol intake is also stopped or sharply reduced.

Prepared for the American Liver Foundation by John R. Senior, M.D., Director, Special Treatment Unit for Alcohol-Related Disorders, Graduate Hospital, Philadelphia, PA.

For Further Information, Contact:
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The University of Texas Southwestern Medical School
5323 Harry Hines Blvd., Dallas, TX 75235 (214) 688-3440

Walter J. Unger, Executive Director
The American Liver Foundation
8506 Lynwood Pl., Chevy Chase, MD 20015 (301) 654-8510

3) Alcoholic hepatitis shows itself as an insidious, but fairly acute illness characterized by nausea, vomiting, right upper and middle abdominal pain, fever, jaundice, enlarged and tender liver, with elevation of the white blood cell count, and sometimes without symptoms.

For many years, it was mistakenly confused with acute gall bladder inflammation (cholecystitis) and patients were inappropriately operated upon, often with fatal results. The combination of operative trauma and anesthesia, and post-operative complications, added too much stress to an already injured liver, which then failed to support life.

The nature of the liver injury was first appreciated in the early 1960's by investigators in London and Los Angeles as a cellular injury and disintegration or necrosis of liver cells, especially around the tiny veins through which blood leaves the liver on its way back to the heart. These dying and dead cells were then shown to be attacked and the debris removed by body defense systems, in a process called inflammation, which itself added to the functional disturbances created.

Alcoholic hepatitis is usually accompanied by fatty liver, at least early in its course, and may occur in an already cirrhotic liver. Repeated attacks of alcoholic hepatitis, which may or may not be clinically apparent, is one of the mechanisms probably responsible for the slow development and progression of alcoholic cirrhosis.

Fatty liver, alcoholic hepatitis, and alcoholic cirrhosis therefore, now are understood as separate disorders, which may be present in a person either alone or in any combination. Many in fact, a large majority of heavy consumers of alcohol do not seem susceptible to development of alcoholic hepatitis and cirrhosis.

Complications of Liver Disease

Since the liver is the major controlling organ for the internal chemical balance of the body, disease affecting it has profound and extensive effects. The liver normally weighs about three pounds in an adult and is one of the largest organs in the body. It is a vital organ, necessary to sustain life and carries out an amazingly complex array of chemical functions.

Like the kidney, it is a major excretory organ, but specializes in removal from the blood of substances which are not readily soluble in water. It receives its own blood supply mainly from the intestinal tract, and only 20-30 percent of its blood comes directly from the heart. It performs most of the synthesis of bodily proteins, fats, carbohydrates from nutrients absorbed via the intestine from the dietary intake, and it contributes to the digestion and absorption of foodstuff by providing bile which contains very powerful detergent substances. Like the adipose (fatty) tissue it stores energy, some as fat, but the liver is the main depot for storage of quick energy as glycogen, a carbohydrate which quickly can be converted to glucose (dextrose). It synthesizes many of the essential factors for blood clotting, factors for solubilization and transport of fatty substances in the blood, factors which bind and transport metals such as iron and copper.

It does much more: literally hundreds of known chemical tasks. It is responsible for maintaining the chemical constancy of the blood necessary for normal brain function; it interacts cooperatively with the muscles, heart, skin, endocrine glands, pancreas, bone, marrow and spleen. Without the liver, none of the other organs can perform well for any length of time.

The complications of liver disease, therefore, involve nearly every organ system of the body and their functions. In addition to the loss of chemical functions, cirrhosis produces a major mechanical problem of increased resistance to flow through it of the venous blood from the gastrointestinal tract and spleen.

This contributes in a major way to formation of the quarts to gallons of ascitic fluid which may accumulate in the abdomen, and to formation of dilated veins for bypassing around the liver the intestinal venous blood on its way back to the heart. These dilated veins or varices, are especially dangerous in the lower esophagus and stomach where they may bleed into the stomach cavity, causing severe internal hemorrhage.

This may be aggravated by reduction of blood clotting ability, and further by the inability of the damaged liver to clear digestive breakdown products of blood, which are absorbed and depress the brain, causing coma. Muscle wasting, weakness, loss of hair and of sexual drive are characteristics of cirrhosis, and in severe cases secondary depression of kidney function may result in renal failure.

Acute alcoholic hepatitis may occur in a person who already has developed cirrhosis, and causes in that person an especially dangerous acute additional loss of liver function, often with fatal results. Death may occur from brain depression and coma with arrest of breathing, from internal bleeding and shock, from secondary kidney failure, from infections which cannot be effectively resisted or from combinations of these complications.

In addition, other organs and body systems may be injured as a result of heavy alcohol consumption, which may complicate treatment of the alcoholic liver disease and reduce chances for survival of the patient. These include: inflammation of the esophagus, stomach lining, pancreas or intestinal lining; muscle weakening in the trunk, limbs, and heart; memory loss; clumsy movements; loss of sensation in the feet and hands; abnormal eye movements; even dementia and psychosis; anxiety; shaking tremors; hallucinations; convulsive seizures; fever; rapid heart beat; severely elevated blood pressure; wild agitation; delirium; and sometimes death — due to heart failure — when the alcohol intake is abruptly stopped; anemia; malnutrition; and a much increased tendency to lung infections and traumatic injury caused by accidents, falls, and assaults.

Recognition of Alcoholic Liver Disease

It is very late, sometimes too late for recovery, if detection of alcoholic liver disease is left to depend upon the manifestation of ascites, jaundice, bleeding varices, kidney failure, or coma. By the time these symptoms and findings appear, the cirrhosis may be irreversible. Even the complete cessation of alcohol consumption may not be effective in allowing recovery.

If the relentless progression of alcoholic liver disease is to be halted before such end-stage cirrhosis is produced, the person who is susceptible must be recognized long before and persuaded to avoid further heavy alcohol consumption.

If the person has alcoholism, total abstinence from alcohol is very likely the only feasible solution. However, not all people with alcoholism are susceptible to alcoholic hepatitis and development of cirrhosis, and conversely, one does not have to have alcoholism in order to develop cirrhosis. Consumption of what may be considered moderate amounts of alcohol, under complete control and ability to stop or start drinking at will, may still be enough to produce alcoholic cirrhosis.

It appears that certain people are more susceptible than others to alcohol-induced damage, and that women may be more susceptible than men even after adjusting their alcohol consumption rate for body weight. The sensitivity to alcohol cannot be predicted reliably, nor is it consistently dose-related. In a statistical survey of a large population, more cirrhosis occurs among those who drink longer and harder, but for an individual this provides no reliable guidance.

The problem, then, is to detect as early as possible who may be susceptible to alcohol-induced damaged. However, this is very difficult, for we have no test of alcohol tolerance. At this time, only the occurrence of acute alcohol liver injury about a bout of drinking gives a clue that the person is probably susceptible.

This could be detected by chemical measurements of the person's blood, by symptoms or findings of illness, or by microscopic examination of a tiny sample of liver tissue (biopsy). However, this depends upon a concerned patient presenting himself to an informed physician at the proper time, which often fails to occur. Even when the diagnosis is made, and the patient told, compliance with advice to abstain from alcohol consumption frequently is difficult to obtain.

Treatment

The best therapy is prevention. In the case of alcoholic liver disease, this means keeping the level of alcohol consumption below that which might cause liver injury for the particular individual. Once a susceptibility to alcoholic hepatitis or cirrhosis is detected, sharp reduction or cessation of alcohol consumption is essential to avoid further damage.

There is no accepted specific therapy for alcoholic liver disease, only the removal of alcohol, correction of nutritional deficits, and supportive treatment of infections, metabolic disorders, anemia and other complications, while the liver heals itself. With continued abstinence from alcohol, healing of the liver over a period of months and years may be most impressive.

Epidemiology and Socioeconomic Cost

Alcoholic liver disease is a close contender to the combined digestive disease cancers as a cause of death, illness, disability, lost productivity, and expensive treatment. Because alcoholism and alcohol have been associated in the public mind with skid-row derelicts and socially unacceptable behavior — if not outright misdemeanor — statistics have been unreliable and difficult to compile.

It is now increasingly evident that even the "executive lunch" and "social" drinking patterns of alcohol consumption may lead to alcoholic liver disease, and that masked alcoholism is highly prevalent in employed, professional and managerial individuals.

In Canada, where extensive statistical-epidemiological data have been gathered on a population about one tenth that of the United States, death due to liver disease is the most rapidly rising cause of mortality, while deaths caused by heart and vascular diseases are falling. About 80 percent of the deaths caused by liver disease in Canada are ascribable to alcoholic liver disease, which is directly correlated with per capita consumption of alcohol.

This consumption has been steadily rising for three decades, and it may be projected that by the mid-1980's, death caused by liver disease may become third behind cardiovascular disease and cancer for males in the working ages of 25 to 65 years. The economic cost is estimated to be many billions of dollars per year, and the cost of suffering, lost creativity, disruption of lives, and despair are incalculable.

While females may have a somewhat higher susceptibility to alcoholic liver disease, the general cultural proclivity toward much heavier alcohol consumption by males has led to a relatively higher death rate from alcoholic liver disease in men, not at the latter part of life, when the degenerative and neoplastic diseases increase in frequency, but in the period which should be the prime of their productive careers.

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Mr. Martin W. Wolff
Mr. Donald R. Young
Mr. Henry P. Zetlin
Mr. S. Nathan Zilber

BMPA and Eastern Shore Hold Annual Banquets

Banquet Grand Marshall Charles Spigelmire presents the Pharmacists Help-Mate Award to Betty Sappe.

BLUE CREST
NORTH

BMPA President Ralph T. Quarles delivers brief remarks at the Annual BMPA Banquet which was held February 11th. Well over 300 Pharmacists, families, friends and invited legislators attended the 63rd annual event.

Pictures courtesy Paramount Photo Service

Out-going President Milton Sappe (right) presents an award to the 1979 BMPA Honorary President, Allan Posner from Loewy Drug Company.

astern Shore Pharmaceutical Association resident, R. Lee Kestler, presided over the nnual Meeting held January 28th in ederalsburg.

Members of the Association attended a business meeting prior to the Banquet and among other items of business memorialized the death of pharmacist William T. Connor.

William J. Kinnard, Jr., Dean of the University of Maryland School of Pharmacy, delivered the Key-Note address at the Banquet.

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ALPHA ZETA OMEGA PHARMACEUTICAL FRATERNITY
In Cooperation With The University of Maryland School of Pharmacy
ANNOUNCES
THE FIFTH ANNUAL

FREDERIC T. (FRITZ) BERMAN PHARMACY SEMINAR

to be held on Sunday, May 6, 1979
at
HOLIDAY INN, BELMONT
1800 Belmont Ave.
Baltimore, Md.
(Next to Martin's West)

PROGRAM

9:00 REGISTRATION AND COFFEE
9:45 INTRODUCTORY REMARKS
10:00 Morning Session:

"ARTHRITIS — DIAGNOSIS AND MANAGEMENT"

Marcia Schmidt, M.D.
Department of Medicine
Division of Rheumatology
University of Maryland

Gordon Ireland, Pharm.D.
Veterans Administration Hospital
Baltimore, Maryland
Assistant Professor of Clinical Pharmacy, School of Pharmacy

11:30 Discussion Session

12:00 Luncheon

1:00 Afternoon Session

"PHARMACY, THE PHARMACIST AND PROFESSIONAL BODY LANGUAGE"

Program of The Academy of Pharmacy Practice, APHA
A Communications and Professional Problem Solving Skills Workshop

3:30 Adjournment

5½ Continuing Education Credits applied for in Applicable States

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Who Can Give Information About Drugs in a Pharmacy?

Because of legislation initiated and drafted by the Maryland Pharmaceutical Association only a pharmacist or pharmacy extern can give information about drugs and medicines and their therapeutic values, potential side effects, and uses in the treatment and prevention of diseases in Maryland. The bill was introduced by Delegate Torrey Brown, a physician.

The law in effect recognizes that in a pharmacy there is a specific health professional who is particularly qualified by education and training to counsel a member of the public who seeks information and guidance about medication.

By contrast, in establishments other than a pharmacy, the public is open to the dangerous practice of receiving advice and recommendations about drug therapy from clerks with no qualifications in providing health care. A host of the ''over-the-counter'' remedies so readily available in all kinds of outlets contain potent drugs, many of which require a physician's prescription in larger doses. Pharmacists should take every opportunity to educate the public that their health and often their very lives are at stake. When people seek advice from unqualified employees of emporia, such as supermarkets and variety stores, they are playing Russian roulette. Only in a pharmacy is there a person, as required by law, who is competent to answer the public's questions about drugs factually and to direct people to the proper medical practitioner as indicated.

In this issue of THE MARYLAND PHARMACIST you will find a poster suitable for display in pharmacies. We suggest that the poster be attached to a stiff cardboard or a sign with an easel back. Place this important message in a prominent place. Clerks in pharmacies can point to the sign as a backup for patrons requesting information. It will make referring them to the pharmacist on duty much easier. Over a period of time it will go a long way in getting the public to accept the fact that the pharmacy is the place to get medication because

YOUR NEIGHBORHOOD PHARMACIST CAN SAVE YOUR LIFE.

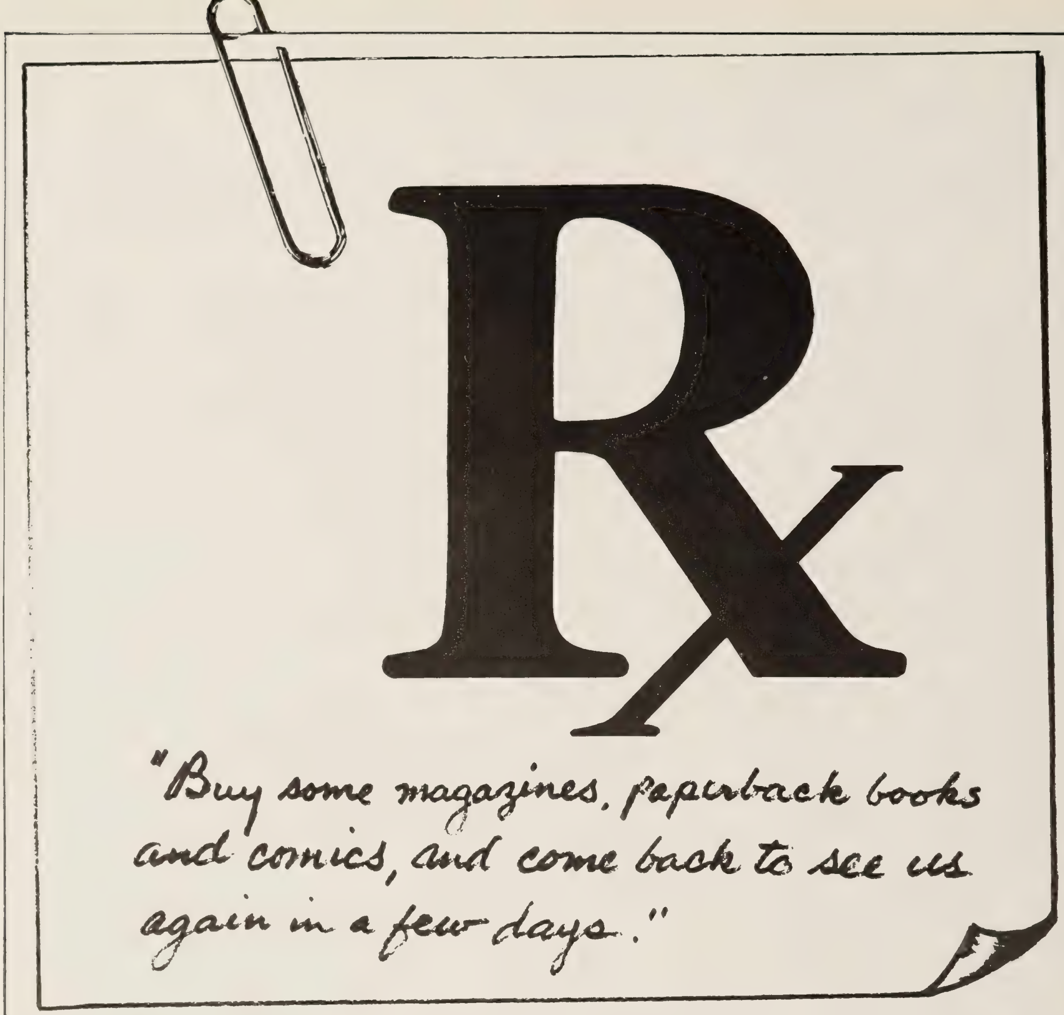
(Detach and Post)

ASK YOUR PHARMACIST

MARYLAND LAW requires that in a pharmacy only a PHARMACIST or PHARMACY STUDENT under the supervision of a pharmacist may provide information to the public concerning drugs and medicines and their therapeutic values, potential side effects, and uses in the treatment and prevention of diseases.

YOU can receive this assurance ONLY in a PHARMACY.

INSIST ON YOUR RIGHT TO PROFESSIONAL ADVICE.



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A significant article on pharmacy law stated that "it is not unlikely that pharmacists substituting therapeutically or bioequivalent drugs for those prescribed will face increasing confrontation in the courts on the issue of their liability for unanticipated or adverse reactions from drugs dispensed by them."*

It should be reassuring to know, therefore, that McNeil Laboratories stands behind you every time you fill a prescription for TYLENOL® with Codeine tablets or elixir—and, for that matter, for every McNeil product you dispense. The "McNeil Pharmacist Protection Policy" gives you this assurance. (If you don't already have a copy, you might like to send for one.)

Today's pharmacist faces many problems. Unnecessary liability risk is one you can avoid.

*From a special report reprinted from U.S. Pharmacist 2(4):18-23, 1977, "Pharmacy Law" by Michael R. [illegible], J.D.

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VITAMINS, MINERALS AND OT

PHARMACIST'S GUIDE T

by Mad
Pharm

(Detach these pag

The purpose of the Guide (to appear in three consecutive installments) is to provide a handy reference for the practicing pharmacist who may find himself con fronted with questions and opinions regarding dietary supplements. The information tabulated in the Guide has been collected from various sources including texts, news paper and magazine articles, advertisements as well as personal testimonials from customers that are frequently repeated. A bibliography of texts and articles will b provided on request.

PART I — THE VITAMINS

VITAMIN (common names)	U.S.R.D.A. (recommended daily allowance)	SOURCES (natural and synthetic)	"FACTS" (biological functions and generally accepted therapeutic uses)	"FICTIONS" (popular uses, not generally accepted by medical community at this time)	TOXICITIES AND INTERACTIONS
Vitamin A	adults and children over 4 yrs.: 2500-5000 I.U. pregnant and lactating women: 5000-8000 I.U.	fish liver oils Carotinoids (in green and yellow leafy vegetables) Alfalfa Dairy products	• Night vision (retinene is Vit. A derivative • Day vision • Maintenance of mucus membranes, ability to resist infection • Maintenance of skin, glands, bones, teeth	• Topically and internally as protection against carcinogenic agents • Vit. A palmitate topically for warts • Topically for psoriasis • To combat hazards of air pollution • As detoxicant in liver disease	• Intake greater than 10,000 I.U. daily can be toxic. Symptoms include: headache, nausea, dry cracked skin, long bone pain • Mineral oil inhibits absorption • Adequate protein intake required to utilize Vit. A
Vitamin B_1 thiamine	adults: 1.5 mg	Sunflower seeds Enriched breads and cereals Whole grains Brewer's yeast Lentils, peanuts Meat Milk	• A coenzyme in cellular respiration (metabolism of sugar) • Vit. B should be supplemented in pregnancy, long term illness • Therapeutically to treat Weinicke's Disease (mental disorder resulting from advanced alcoholism)	• Popularly as one of "stress vitamins" • To improve learning and intelligence • Megadoses to treat myasthenia gravis • Used in early multiple sclerosis • Orally, as insect repellant • Mood stabilizer	
Vitamin B_2 Riboflavin "Yellow Enzyme"	adults 1.7 mg	Liver, kidney, heart Yeast Dairy products Enriched cereals	• Forms flavoproteins which are essential in cellular respiration (FMN, FAD) • Maintenance of skin and eyes: lack of Vit. B. may lead to corneal disorder and cataract formation	• Popularly as one of "stress vitamins" • Claimed to remove wrinkles of old age	
Vitamin B_3 niacin (nicotinic acid) niacinamide camide of nicotinic acid)	adults and children over 4 yrs.: 20 mg children under 4 9 mg pregnant and lactating women 40 mg	Green, leafy vegetables Meats (liver, kidney, heart) Wheat germ Brewer's yeast Eggs	• Forms hydrogen acceptor in cellular metabolism (NAD, NADP) • Nicotinic Acid is vasodilator (may be used in coronary artery disease, chronic brain syndrome) • Nicotinamide may inhibit enzyme activity in growing cancer cells	• Popularly as one of "stress vitamins" Megavitamin therapy for certain types of schizophrenia (given with ascorbic acid, pyridoxine, calcium pantothenate)	(In megadoses 3-9 gms, cases of liver damage have been reported)
Vitamin B_5 pantothenic acid calcium pantothenate	adults: 10 mg (popular doses range 25-50 mg)	Yeast Organ meats Royal jelly Egg yolk	• Essential in synthesis of Coenzyme A universally needed for growth and well-being	• Popularly as one of "stress vitamins" • For temporary relief of arthritic inflammation • As digestive aid	
Vitamin B_6 Pyridoxine	adults and children over 4 yrs.: 2.0 mg child under 4: 0.7 mg pregnancy: 2.5 mg	Liver Yeast Meats Egg yolks Legumes Alfalfa Grains	• Essential in protein metabolism • Need is increased on high protein diet • Gluconeogenesis	• Used to treat certain palsies • To relieve morning sickness • To relieve menstrual discomfort • To improve menopausal syndrome • Lack of B_6 linked to rheumatism • Megadoses may relieve varicose veins	• Isoniazid may decrease B_6
Vitamin B_{12} Extrinsic Factor cyanocobolamine	Adults: 6 mcg	Liver, kidney, heart Brewer's Yeast Soybeans Wheat germ	• Parenterally in pernicious anemia • Severe deficiency causes neurological disorders	• Claimed to treat certain tumors of nervous system in children • Used to prevent asthma attacks • Prevents mucosa of eye in heavily polluted environment	
Folic Acid Folicin Foliage Vitamin	adults and children over 4 yrs.: 0.4 mg child less than 4: 0.2 mg	Green leafy vegetables Liver Milk Meat	• Essential in DNA synthesis • Hematinic	• Cure for post-partum depression • Injection to relieve bursitis • Oral and parenteral in severe dandruff • Anti-viral activity claimed • Used in megavitamin therapy for schizophrenia • Prevent premature gray; to restore hair color • May be requirement if on birth control pill (pill may impair absorption of folate)	
Inositol (one of B-complex-vitamins) myo-inositol is active species	need in human nutrition not established	Seeds, beans, nuts Limited synthesis in human tissue Present in all natural sources of B complex	• Need not established, yet found in high concentrations in brain, stomach, kidney, spleen, heart • With choline, emulsifies fat	• May reduce blood cholesterol levels • With biotin, it produces favorable environment for gut flora • With niacin, used to treat certain mental disorders • Used to relieve psoriasis, eczema, dermatitis	

R DIETARY SUPPLEMENTS: A

HE FACTS AND FICTIONS

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ident

ost for reference)

"FACTS" represents most of the generally accepted biological functions and therapeutic uses of vitamins. Diseases manifested in gross nutritional deficiencies are nitted since these are rarely, if ever, seen in the community pharmacy. "FICTIONS" represents other purported uses which are not generally accepted by the medical comunity but which are currently popular. It is most likely that "Fictions" are responsible for the great popularity of dietary supplements today.

The "Facts" section has been reviewed and edited by Dr. Nicholas Zenker, Chairman, Department Medicinal Chemistry, School of Pharmacy, Baltimore.

			use in atherosclerotic disease • Choline essential in neuro-transmission		
Biotin "Vitamin H" (one of B-complex)	adults: 0.3 mg	Grains Nuts Leafy green vegetables Eggs Liver, kidney	• Essential in fatty acid syntheis		
Vitamin B_{15} Panagamic Acid Aangamic-15	Not a vitamin No U.S.R.D.A. (American advocates: 150 mg/day Russian proponents: 50 mg/day)	A mixture of: Sodium gluconate glycine diisopropylamine dichloroacetate Occurs in all natural sources of B-complex	• No evidence of value in treatment or prevention of any disorder	• Popularized by Dr. Ernest Krebs (of Laetrile fame). Believed to increase oxygen uptake by blood and to increase tissue utilization of oxygen • Advocated as a panacea including relief in: heart disease aging process senility vascular disorders aphrodisiac alcoholism (cure) psychiatric disorders skin disorders • To stimulate immune response • To detoxify pollutants • Involved in protein synthesis	
Vitamin C Ascorbic Acid	adults: 60 mg (advocates propose megadoses range 600 mg-10,000 mg)	Citrus fruits Leafy green vegetables Broccoli Cauliflower Strawberries Tomatoes	• Needed for proper formation of intracellular ground substance • As coenzyme in formation of catecholamines • Facilitates absorption of iron • Speed wound healing	• Megadoses believed to decrease impact of common cold; to prevent common cold • Prevent tooth decay • To relieve backaches due to disc injury • Relief of rheumatoid arthritis • Increase resistance to infection • Muscle relaxant • Detoxicant of chemical poisons • Relieve insect bites • To prevent bladder cancer • Supplement in cystic fibrosis, diabetes	• High doses of Vit. C may be contraindicated in gout. Ascorbic acid may cause retention of cirate. • Megadoses may destroy B_{12} • Megadoses may have laxative effect
Vitamin D D_2 (ergosterol) irradiated D_2 (calciterol) D_3 (cholecalciterol, naturally formed)	adults: 400 mg	Fish liver oils (natural source) D_3 made on human skin in sunlight Milk fortified with D_2	• Essential in absorption of calcium • Calcium needed to form bone and cartilage matrix	• Supplemented in post menopausal women with calcium to prevent osteoporosis • Used in arthritis therapy	• Mineral oil impairs Vit. D absorption • Excess Vit. D may cause generalized weakness, vomiting, diarrhea, headaches, demineralization of bone, calcification of soft tissues (excess of 500,000 I.U. daily)
Vitamin E tocopherols -tocopherol is most active	adults: 400 I.U. of tocopherols or 30 I.U. of -tocopherol	Corn oil Sunflower oil Cottonseed oil Soybean oil Wheat germ Peanuts Whole grains	• Inhibits auto-oxidation of unsaturated fatty acids and Vit. A • Important in maintenance of cellular membrane structure • Necessary to erythrocyte functioning • Adequate muscle function • Vit. E supplementation indicated in cases of impaired absorption	• Believed to strengthen and expand capillary walls and to improve circulation • Advocated in arteriosclerosis, heart disease, circulatory problems, diabetes • To impede scar formation • Aids in dissolving clots (advocated in pill users) • Enhances burn healing • Increases male potency • Relieves arthritic pain • Prevent and relieve varicose veins • Protects against damage of air pollution • Topically to eliminate aging wrinkles • Used by runners to increase endurance	• Anticholesterol drugs destroy Vit. E • Iron may impair absorption • Fats and Vit. A enhances absorption • Synergistic with selenium as antitoxidant • Use in hypertensive patient or rheumatic heart disease patient may be contraindicated
Vitamin K Antihemorrhagic vitamin (phytonadione-K_1) (menadione-K_3)	No U.S.R.D.A. established Rx only	Naturally present in vegetables Fruits Seeds Produced by gut flora	• Vit. K required for biosynthesis of clotting factors • Vit. K used therapeutically to correct hemorrhage associated with its deficiency		• Prolonged antibiotic therapy may deplete Vit. K — seen by increased bleeding tendency

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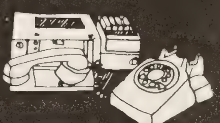

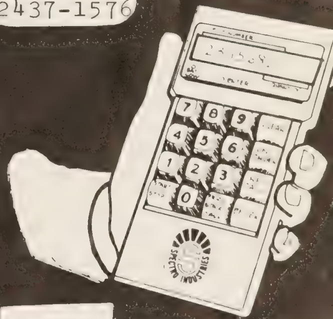

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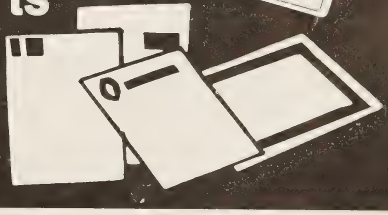

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HEW Report to Congress and the President on Pharmacists

The nature and scope of pharmacy, the third largest health profession, is changing rapidly. In recent years pharmacy education has evolved toward a more clinically based program, largely brought about by concern over the under-utilization of pharmacists in their restricted role of compounding, counting and pouring drugs at the same time that patient misuse of drugs and non-compliance with practitioner instructions was rising. The new emerging clinical orientation of the profession will bring the pharmacist much closer to both the physician and the patient.

While some growth in numbers of pharmacists has taken place in recent years, substantial growth of the profession is expected in the future. Growth in the number of new pharmacists will be mitigated somewhat by the fact that an increasing proportion of pharmacy graduates will be women, and may be somewhat less likely than male pharmacists to work on a full-time basis.

The new HPEA legislation (P.L. 94-484) states that to be eligible for a grant under Section 770, each school of pharmacy must give assurance that their students will undergo a training program in clinical pharmacy. These programs are to include inpatient and outpatient clerkship experience in a hospital, extended care facility or other clinical setting; interaction with physicians and other health professionals; training in the counseling of patients with regard to the appropriate use of and reaction to drugs; and training in drug information retrieval and analysis in the context of actual patient problems. By 1990, approximately one half of all active pharmacists are expected to be trained in this manner. However, there will still be a substantial number of older pharmacists who are not so trained, and the role of these pharmacists in the delivery of health care will undoubtedly have to be reexamined.

There are a number of other developments relating to pharmacy that need to be watched. Foremost is the possibility that the supply of pharmacists may exceed the demand for their services, possibly in the mid-1980's. The current need for additional pharmacists appears less critical than in other health professions, and with the substantial increase in pharmacists projected to take place in the next decade or so, a situation could develop in which there may not be enough positions available for future pharmacy graduates, either nationally or in specific areas of the country. The substantial number of women entering the field is also expected to alter the practice of pharmacy, since this will mean that a far greater proportion of pharmacists may be employed on a less than full-time basis than at present. The effect these developments will have on the practice of pharmacy needs to be addressed.

Another development of potential consequence is the spread of health insurance plans that include reimbursement for the costs of prescription drugs. The pattern of financing of health services by third-party payment is rapidly becoming the norm, and any national health insurance program is very likely to include payments, in whole or in part, for prescription drugs, replacing the historical arrangement whereby the patient or client pays the pharmacist directly. The influence of such third-party payers could clearly affect the economics of retail pharmacy and the practice of pharmacy generally, although the direction is uncertain. Related issues of quality control and cost containment of pharmacy services will also likely affect the practice of pharmacy.

In the years ahead, according to the report of The Study Commission on Pharmacy,[1] the greatest change in pharmacy may occur among those pharmacists engaged in dispensing. The shift to more organized and larger forms of health care delivery systems — such as hospitals, clinics, and HMO's — may also change the place where many pharmacists work. The possible shift of dispensing pharmacists from solo practice to members of a group furnishing a comprehensive health service of which drug services are an integral part, will require increasing collaboration with other pharmacists and other health professionals. As a member of a health service organization, a pharmacist may be responsible for interacting with patients by reinforcing the physician's instructions about drug therapies and by keeping drug utilization records.

Numbers and Characteristics of Pharmacists

In 1973 there were approximately 116,600 active registered pharmacists in the United States. Some growth, although not substantial, in the numbers of active pharmacists has taken place in recent years. Nearly three-fourths of all pharmacists worked in community pharmacies. Of these, about one-half were in independent establishments, an additional one-fourth were in chain stores, and the remaining one-fourth worked in hospitals, nursing homes, government, education, or manufacturing. Overall, about

Table VII-1. Number of active pharmacists by sex and place of practice: 1973

Place of practice	Total Active pharmacists	Percent	Total Active males	Percent	Total Active females	Percent
Total	116,562	100.0	103,732	100.0	12,830	100.0
Independent community pharmacy	54,884	47.0	50,418	48.6	4,466	34.8
Small chain community pharmacy	13,144	11.3	11,915	11.5	1,229	9.6
Large chain community pharmacy	17,929	15.4	16,331	15.7	1,598	12.5
Clinic or medical building pharmacy	4,438	3.8	3,746	3.6	692	5.4
Nursing home	498	0.4	364	0.4	134	1.0
Private hospital	10,798	9.3	7,756	7.5	3,042	23.7
Government non-federal hospitals	3,622	3.1	2,794	2.7	828	6.5
Other State and local government	1,300	1.1	1,052	1.0	248	1.9
Government federal hospital (including military)	2,100	1.8	1,903	1.8	197	1.5
Other federal government	340	0.3	310	0.3	30	0.2
Pharmaceutical manufacturer	5,119	4.4	4,990	4.8	129	1.0
Pharmaceutical wholesaler	443	0.4	418	0.4	25	0.2
College of pharmacy	1,418	1.2	1,265	1.2	153	1.2
Other	533	0.5	474	0.5	59	0.5

Source: Pharmacy Manpower Information Project: American Association of Colleges of Pharmacy, 1973. NIH Contract No. 71-4178.

one-third of the community pharmacists were proprietors, and two-thirds were salaried employees. Most of the pharmacists working in hospitals and nursing homes, government, education, or in manufacturing are probably salaried employees. (Table VII-1)

The proportion of pharmacists working in independently owned pharmacies has decreased significantly since 1966, when 68.5 percent either owned or worked in an independent community pharmacy. By 1973, this proportion had dropped to 47.0 percent. The proportion of pharmacy practitioners working in chain pharmacies has risen from 14.0 percent to 26.7 percent during this same period. The percentage of pharmacists employed in hospitals has increased from 8.0 to 14.2 percent since 1966, while the numbers employed by the manufacturing and wholesale industries have remained relatively constant.

The age distribution of pharmacists by practice setting reveals much about the nature of the profession. Among younger pharmacists there appears to be a sharp trend away from independent pharmacies and toward chain pharmacies and hospitals. (Table VII-2) An increasingly large proportion of pharmacists employed by federal hospitals, private hospitals and chain pharmacies are under 30, while the percentage of young pharmacists practicing in independent pharmacies is much lower. This underscores the general trend away from independent pharmacies, and also may be an indication of preference among recent graduates for the security of an institutional work setting.

In essence, it has taken only about 20 years for pharmacy to change from a profession characterized by practitioners as pharmacy owners to one in which pharmacists are predominantly employees. As the health care system evolves and pharmacy continues to change with it, other changes in the employment status of pharmacists will undoubtedly take place.

In 1973, the average pharmacist worked about 44 hours a week at his primary place of practice (Table VII-3). Fifteen percent of all pharmacists had a secondary place of practice at which they averaged an additional 15 hours per week. Pharmacists working in community pharmacies had the longest work week, approximately 46 hours, while those employed in nursing homes had an average work week of only 37 hours. It would appear that pharmacists who work in nursing homes are mainly part-time employees. As the population continues to age, and the nursing home industry continues to grow, the effects of this trend on pharmacy manpower may increase in significance. Further changes in health care financing might also affect the need for pharmacy manpower in this area.

Of the estimated 147,800 licensed pharmacists in the United States in 1973, one out of five (21.1 percent) was classified as inactive, that is, not currently practicing pharmacy or pharmacy related work. This represents a potentially substantial pool of licensed non-practicing manpower for the profession, more so than in any other health profession except nursing.

Table VII-2. Percentage of active pharmacists by age group and place of practice: 1973

Place of practice	Age group						
	Less than 30	30-39	40-49	50-59	60-64	65-69	70 or older
Independent community pharmacy	8.7	22.1	27.0	19.1	8.6	7.8	6.7
Small chain community pharmacy	17.4	29.5	24.3	14.8	5.8	5.0	3.2
Large chain community pharmacy	22.8	31.9	21.2	13.8	5.1	3.5	1.7
Clinic or medical building pharmacy	14.4	27.1	27.3	16.2	6.4	5.2	3.4
Nursing home	13.5	24.9	20.5	14.2	7.6	8.6	10.7
Private hospital	27.1	31.5	18.1	5.3	3.8	2.4	
Government non-federal hospitals	25.1	29.1	20.8	14.0	5.1	4.1	1.8
Other State and local government	1 .6	22.6	20.3	21.8	9.5	7.2	3.0
Government federal hospital (including military)	35.2	24.9	16.2	19.3	3.1	1.1	0.2
Other federal government	17.0	26.5	28.6	21.1	3.7	2.4	0.7
Pharmaceutical manufacturer	5.9	27.2	32.6	22.7	8.0	2.9	0.7
Pharmaceutical wholesaler	1.8	12.8	27.7	19.1	19.6	12.0	7.0
College of pharmacy	21.1	35.4	20.7	15.4	4.2	2.2	1.0
Other	10.6	34.0	23.4	14.8	7.2	6.5	3.5

Source: Pharmacy Manpower Information Project: American Association of Colleges of Pharmacy, 1973. NIH Contract No. 71-4178.

Women and Minorities in Pharmacy

The most dramatic trend in pharmacy manpower is the dramatic increase in the number and percentage of women entering the profession. In the past, only a very small proportion of practicing pharmacists were female, but pharmacy is now in the midst of a change in the sexual composition of its manpower pool. For example, in 1950 only 4.0 percent of the active pharmacists were women. By 1970, this percentage had risen to 9.0 percent, and by 1973 to 11.0 percent. This trend is expected to continue for some time because the percentage of women enrolled in the final three years of study in colleges of pharmacy is steadily increasing. In 1963-64, 13 percent of the students in this class were female. By the 1976-77 academic year the proportion of females had risen to 37 percent.

The impact of the increased proportion and number of female practitioners will be felt in all areas of pharmacy, especially in hospital pharmacy. While women pharmacists, like male pharmacists, were most numerous in community pharmacies, they comprised over 28 percent of hospital pharmacists. The attraction of women to the institutional setting is easily understood because it offers a professional atmosphere and regularly scheduled working hours, providing for basic adaptation to the dual roles of career and family.

Table VII-3. Proportion of pharmacists by place of practice and by average workweek at principal and secondary locations: 1973

Place of practice	Principal Location: Proportion of practitioners (percent)	Principal Location: Average hours worked per week	Secondary Location: Proportion of practitioners (percent)	Secondary Location: Average hours worked per week
ALL places	**100.0**	**44**	**100.0**	**15**
Independent pharmacy	47.0	46	18.4	14
Chain pharmacy	26.7	44	11.2	15
Clinic	3.8	43	9.5	15
Nursing	0.4	37	29.1	16
Hospital	14.2	40	18.0	16
Manufacturer	4.4	44	1.6	15
Other	3.5	43	12.2	15

One of the concerns surrounding the employment of professional women is how to retain large numbers of them for more extended portions of their adult lives; that is, to increase their work-life expectancy, at least as measured by the average number of years spent in professional activity. A study of the career longevity of female pharmacists has revealed that their mean professional life is only about 16 years, primarily because of marriage and family-related responsibilities.[2]

Existing career patterns for professional women also indicate they frequently less than men, in terms of hours and weeks of work per year in professional practice. Although data on women in pharmacy are sparse, evidence indicates that the professional career of the average female pharmacist is shorter than that of the average male pharmacist. For this reason, there is a substantial interest in the growing number of women in pharmacy.

Overall, the percentage of active females in the pharmacy work force is projected to rise from 11.0 percent in 1973, to 19.1 percent by 1980, and to 30.8 percent by 1990.

In view of these projections, it seems clear that future developments among women in pharmacy must be watched very carefully to make certain that the career patterns of women pharmacists do not significantly reduce the availability of pharmacist services. The most obvious ways of increasing both male and female pharmacist productivity would seem to be increased use of subprofessionals and increased utilization of technology.

According to the pharmacy manpower information survey of 1973, only one of every 25 active pharmacists was a member of a minority group. The South Atlantic division had the highest proportion of Black American pharmacists, nearly one-third of whom were located in the District of Columbia. The Pacific Division had the largest proportion of Asian pharmacists, over 14 percent. The majority of Asian pharmacists were concentrated in the States of Hawaii and California, both of which have large Asian populations.

Pharmacists who are members of racial-ethnic minority groups tend to be concentrated in practice locations delivering primary care, that is, in community and hospital pharmacies (Table A-VII-1). Looking at the distribution for each racial-ethnic group, a slightly different pattern emerges. For example, black pharmacists tend to be more evenly distributed among the community and hospital categories than are white pharmacists, and Japanese and Chinese pharmacists are more evenly distributed than either of the above two groups.

Licensure Requirements

Initial licensure of pharmacists generally requires a minimum of five years of professional education, of which the last three or four must be in an accredited college of pharmacy. Applicants in every state except four must also complete a one year internship; a basic science certificate is required in Tennessee. The State Board of Pharmacy may prepare a written examination or they may use the national examination. According to the American Pharmaceutical Association, the National Pharmaceutical Licensure Examination (NABLEX) was first administered in 1970. By 1976, it was being used, at least in part in 44 states.[3] Each State Board of Pharmacy determines the extent to which the examination is used. Practical and/or oral examinations are additional parts of the examination in some states. California and Florida are the only two States that do not have reciprocity agreements with other States.

Recent Developments in Licensure

Continuing education for pharmacists, as for several other health professionals, is becoming of increasing inter-

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est to the profession. Thirteen states require pharmacists to participate periodically in courses, programs, or seminars as a condition to license renewal. Although the precise programs are determined by the individual state boards. In the fall of 1975 the American Council on Pharmaceutical Education (ACPE), which is the nationally recognized accrediting agency in pharmacy, was requested to accept responsibility for developing a program to assure quality in pharmaceutical education.

Although participation in continuing education does not by itself assure that the practitioner is maintaining his competence, it is believed to be the most effective method available by which practitioners may update and enrich their qualifications.

Geographic Distribution of Pharmacists

According to the widely utilized measure most of evenness of geographical distribution of health professionals, pharmacists are the most evenly distributed of all the health professions. Recent developments indicate a continued movement toward greater evenness of geographic distribution of pharmacists. A factor that is likely related to the distribution of pharmacists is the fact that nearly all States have at least one school of pharmacy and that graduates of the schools have tended to practice in the State where they received their education. However, these graduates do not tend to concentrate in specific parts of the State but appear to be spread fairly evenly throughout.

In 1973, there were 55 pharmacists for every 100,000 persons in the United States. Table A-VII-2 shows the number and proportion of pharmacists by geographic division and State, including the District of Columbia and Puerto Rico. The New England Division had the highest pharmacist to population ratio (64 per 100,000 population), and the South Atlantic Division had the lowest, 49 per 100,000 population. These differences between high and low ratios are much smaller than in other health fields. Among individual States, the ratio ranged more widely, from a high of 81 per 100,000 population in the District of Columbia and 71 in the State of Massachusetts, to a low of 29 in Hawaii.

Unlike other health professionals, pharmacists are relatively evenly distributed between metropolitan and non-metropolitan areas. Metropolitan areas have about three times the population of the non-metropolitan areas and have only slightly more than three times the number of pharmacists. Stated another way, the 73 percent of the population in metropolitan areas are served by a nearly matching proportion (76 percent) of the active pharmacists. There is also relatively little difference in the ratio of pharmacist-to-population between large and small SMSA's.

Counties in SMSA's of one million or more population had 58 pharmacists per 100,000 population while those in SMSA's of under 100,000 population had 52 pharmacists per 100,000 population. In non-metropolitan counties, a similar pattern is apparent although the differences are somewhat greater. For non-metropolitan counties with the largest central cities (i.e., of 25,000 population and over), the average number of pharmacists was 55 per 100,000 population, about the same as the ratio for metropolitan areas. Similarly, the number of counties in the Nation without a pharmacist was comparatively smaller than any other health profession. As pharmacists enter health manpower shortage areas under Section 322 of the Public Health Service Act, variations among and within geographic areas should continue to lessen.

Part II will appear in the April issue.

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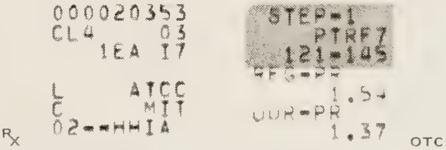

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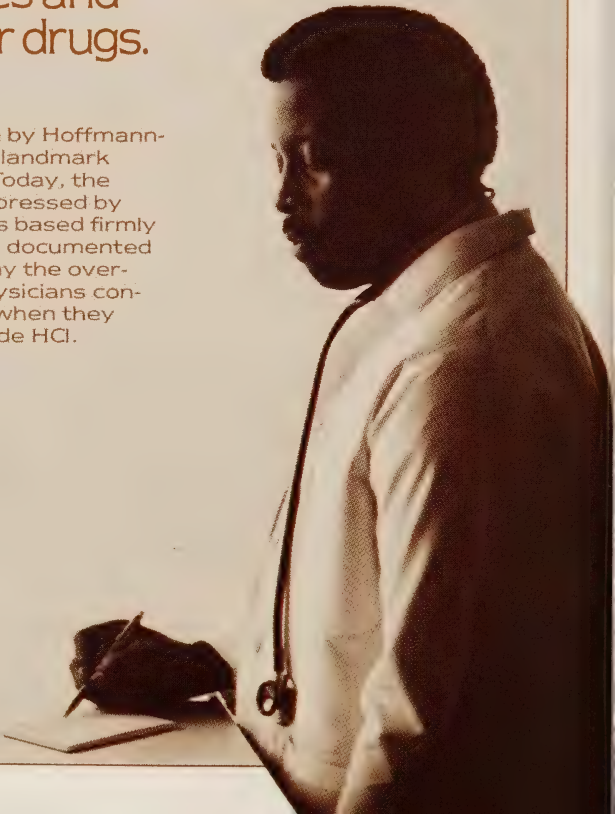

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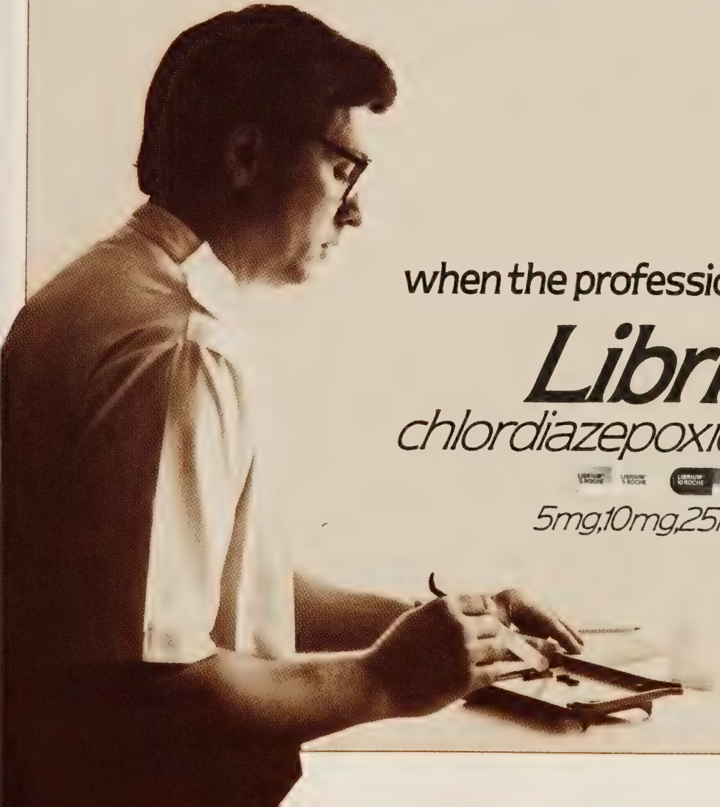

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LETTERS

Editor,
Maryland Pharmacist,
650 West Lombard Street
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Dear Sir:

I wish to express my thanks to the Maryland Pharmaceutical Association, to Pharmpac, to Stan Yaffee, to Dave Banta, and to Joseph Kaufman for the help and support of my position in the show-cause hearing held by the Division of Drug Control on October 24, 1978.

Especially gratifying was not only the large turnout at the meeting, Thursday, January 25th, but the letter sent to the hearing officer in my case on behalf of all those attending this meeting.

With this type of unity and show of strength, we can rise above the attempts on the part of those attempting to overregulate us by misinterpreting the powers granted them. I think this was best expressed by our attorney, Joe Kaufman, in a letter, November 7, 1978, to Mr. John Zell, hearing officer in my case. Mr. Kaufman wrote . . . "It is clear that the attempt by the State in this case is clearly 'nit-picking' and this matter should not be dignified by any adverse finding to Mr. Glaser. The State's claimed justification is a need for uniformity. This can be best answered by Emerson's statement: 'A foolish consistency is the hobgoblin of small minds.' " Amen.

Very truly yours,

Abe Glaser

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- Pharmacists keep precise records as required by government agencies and to assist you and your physician.
- Pharmacists serve as consultants on medications to physicians and other health professionals.

Community pharmacists are highly-educated and must pass rigid State Board Examinations to practice their profession. *Counting pills or measuring liquids* is but one small step in dispensing your medication. Your community pharmacist is a competent, reliable source of family health information and is readily available when you need assistance.

For greater health benefit, get to know your pharmacist. Learn more about his profession and his true role in safeguarding your health.

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The Upper Bay Pharmaceutical Association is offering its members a series of package stuffers which were developed to promote the image of Pharmacy. Developed by the public relations firm of Image Makers in Fells Point, the package stuffers are available to other local associations for distribution or other interested pharmacists.

The MPhA's Committee on Professional Practice has been working on this project as well. Contact John Conrad of the Upper Bay Association at Bel Air Apothecary (301) 838-8353 for additional details.

Pictures courtesy of PARAMOUNT PHOTO SERVICE

PharmPAC, the Maryland Pharmacy Political Action Committee held an emergency statewide meeting on January 25, 1979, to discuss the proposed suit against the state over the Medicaid fee and the plight of two pharmacists who have undergone "show cause" hearings from the Division of Drug Control. In spite of bad weather, the meeting was well attended by pharmacists from throughout Maryland.

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THE MARYLAND PHARMACIST

Official Journal of
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APRIL, 1979
VOL. 55
NO. 4

Chemical Structure and Drug Stability

–Jeremy Wright, Ph.D.

Vitamins, Minerals and other Dietary Supplements

–Madeline Feinberg, Pharmacy Student

Pharmacist's Consultation with Dental Patients

–Richard M. Oksas, Pharm. D.

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APRIL 1979 **VOL. 55** **NO. 4**

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President's Message

Our Award Winning Journal

The Association has recently received word that the MARYLAND PHARMACIST was the first prize winner in the Sandoz Medical Journalism Awards Program. This is a great honor and reflects well on the staff and the Association as a whole.

Often times the Association is judged by those outside of the pharmacy community by the form and style of the communications that come from the Association. It is comforting to know that the valuable function of transfering information is not only handled efficiently in this Association, but also in an award winning manner.

The Award was won in competition with other state association journals, many with greater budgets and staff personnel. The officers, trustees and staff of the Association are pleased that the MARYLAND PHARMACIST has won this national recognition. We thank the Sandoz company, the sponsors of the competition, for their interest in pharmacy association publications, such as ours, and we look forward to many more years of outstanding journal publication, which I believe is one of our Association's best membership benefits. I especially want to recognize the efforts of David Banta, who, in large part, is responsible for this award winning journal.

Chemical Structure and Drug Stability

by
Jeremy Wright, Ph.D.
Associate Professor
University of Maryland
School of Pharmacy

The stability of a pharmaceutical product is usually evaluated in terms of its physical stability and of its chemical stability, though there is probably no absolute division between the two. Physical stability is important from the point of view of uniformity since, for example, a broken emulsion can lead to inaccuracy of multiple doses. Availability is also a factor which is affected since a breakdown of the physical form can lead to non-availability of the medicament.

Chemical stability has received a great deal of attention because the chemical properties of a drug will determine not only its shelf life, but also the formulation which must be employed to retain the maximum stability which is compatible with biological availability. Though there are few instances in which chemical degradation leads to a more toxic compound, many drugs will decompose to therapeutically inert products with potentially dangerous results.

All pharmacists are aware by experience of the stability problems which exist, and are ever vigilant to detect those signs of deterioration which include change of color, formation of a precipitate or cloudiness, and appearance of a foreign odor. Expiration dates too, are a useful guide, but can be completely invalid if optimal storage conditions have not been maintained. Detection of chemical decomposition can, however, be enhanced by the application of a little chemical knowledge of the understanding of the mechanism by which molecules disintegrate, and observation of those particular entities which are susceptible to ready decomposition. The value of this knowledge lies most probably in the ability to see which chemical entities are most likely to decompose, and to be alert in detecting signs of decomposition.

Chemical Causes of Drug Deterioration

The processes of oxidation, photodegradation, hydrolysis, racemization and polymerization are the main causes of drug decomposition. Incompatibilities are often the result of incorporating ingredients into a formulation which react chemically with each other. This article will discuss each of the above chemical processes as they apply to the stability of drugs.

The insets which appear deal specifically with the chemical mechanisms by which the various processes occur and are intended to supplement the main body of the paper.

1. Oxidation

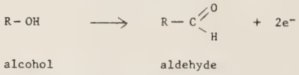
Oxidation as it is generally understood in organic chemistry, is a gain of oxygen or a loss of hydrogen. This is probably the first definition most of us learned in chemistry, and it is a process which frequently occurs in organic pharmaceuticals. However, it is by no means a complete definition, and an inorganic chemist would be more likely to define oxidation as a loss of one or more elections e.g.

e.g.

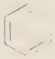
$$\underset{\text{Ferrous iron (divalent)}}{Fe^{++}} \underset{\text{reduction}}{\overset{\text{oxidation}}{\rightleftharpoons}} \underset{\text{Ferric iron (trivalent)}}{Fe^{+++} + e^{-}}$$

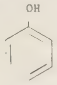
Though this definition cannot be applied so readily to organic systems, it does give a clue to the susceptibility of a molecule to oxidative processes. Thus, if a chemical moiety in a drug is "electron rich", it is frequently susceptible to oxidation; if a chemical moiety is "electron deficient" it is frequently resistant to further oxidation. To illustrate this we will discuss the oxidative processes which occur when readily oxidizable groups are exposed to light and air. Table I gives the general structures of chemical functional groups which occur ubiquitously in drug molecules.

Oxidation of organic compounds is usually a two electron process, as is illustrated by the equation below, though the mechanism may well be by loss of one electron followed by the second microseconds later. It follows, then, that those molecules which have an electron rich structure are the most likely to lose electrons and thus be oxidized.

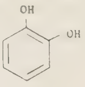


Of those groups in Table I, phenols, anilines and aromatic thiols are by far the most likely to oxidize. The reason for this is that the oxygen, nitrogen and sulfur in these groups have the ability to donate electrons into the aromatic ring, thus creating a situation in which the ring is electron rich (see Inset I). This high electron density in an aromatic system (sometimes called π or pi excessive) mean that the system can readily lose electrons and become oxidized. In alkaline solution, the electron donating effect is further enhanced in the case of phenols and thiols due to the fact that the group will exist as a phenoxide anion (Inset I) which increases the electron donating properties of the oxygen by a large factor. Finally, introduction of a second electron donating group produces an additive effect. This point can be illustrated by considering the structures of simple molecules such as benzene, which is remarkably stable towards oxidation; phenol, which discolors slightly when exposed to light and air; and catechol (o-hydroxybenzene) which discolors in seconds in solutions which are alkaline.


Benzene

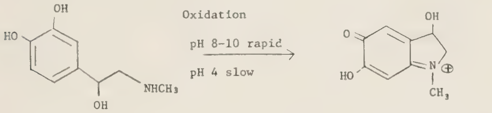


Phenol



Catechol

As is well known, the catechol type drug epinephrine has to be buffered at acid pH, since it decomposes very rapidly in alkaline solution, oxidation and polymerization reactions being predominant.

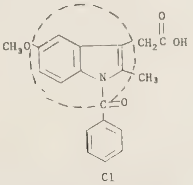


Epinephrine

Adrenochrome

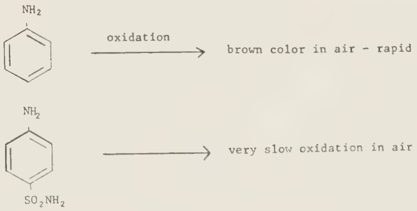
Similar instability will be seen in compounds which bear one or more amino or mercapto groups.

The situation with electron excessive heterocyclic rings is a little more difficult to explain. Of those which appear in drug molecules, pyrrole and indole are probably the most common. These nitrogen containing heterocycles are electron rich for reasons which are given in Inset 2. Applying the basic knowledge which can be obtained from a study of the simple pyrrole and indole rings (i.e. electron excessive properties), certain predictions can be made regarding the stability of more complex molecules such as the indole derivative Indomethacin:



The indole moiety (circled) which occurs in this drug is susceptible to oxidation by virtue of its π excessive nature. Add to this the fact that the methyl, acetic acid, and methoxy groups can also donate electrons to the ring system, and the instability is further enhanced. The p-chlorobenzyl group is electron attracting for reasons which will be dealt with later, but this is not sufficient to override the effects of three donating groups. The indomethacin molecule as a whole, therefore, will exhibit a susceptibility to oxidation similar to that of the parent compound indole. Incidentally, it can also be predicted that indomethacin will hydrolyze readily, the reasons for this will be discussed in the hydrolysis section.

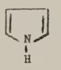
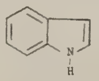
Chemical groups which resist oxidation are listed in Table 2. As might be expected, the properties of these groups are opposite to those which exhibit susceptibility to oxidation. The mechanism by which an electron deficient aromatic system exists, is illustrated in Inset 3, in which the simple molecule nitrobenzene is shown. Drugs which possess electron withdrawing (and hence electron deficient) groups in aromatic systems include chloramphenicol, metronidazole and azomycin (nitro groups), chlorpropamide (halogen group), sulfonamides (sulfonic acid amide group) and quinoline antimalarials (π deficient heterocycles). Such compounds are usually even more resistant to oxidation than is benzene. They can also improve the stability of compounds which possess electron donating groups which would otherwise make the compound susceptible to oxidative processes.



In the above example the amino group attached to the ring of the sulfonamide is electron donating and tends to destabilize the ring, the powerful electron withdrawing properties of the sulfonic acid amide group counteracts this ef-

Table 1

Functional Groups Commonly Occurring in Drugs Which are Susceptible to Oxidation.

Alcohols	R • OH
*Phenols	Ar • OH
Amines	R • NH$_2$
*Aromatic amines (anilines)	Ar • NH$_2$
Mercapto groups (thiols, thio alcohols)	R • SH
*Aromatic thiols (thiophenols)	Ar • SH
*Pyrrole	
*Indolyl	

R = alkyl group, Ar is an aromatic ring.
*Groups most susceptible to oxidation.

Table 2

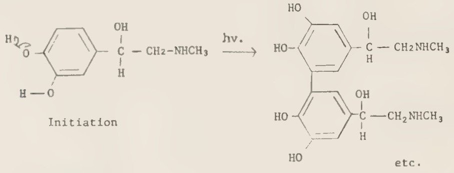
Groups Which Resist Oxidation

Carboxylic acids	R • COOH
Nitro compounds	R • NO$_2$
Esters	R • COOR
Amides	= O • R • C−N R = H O
deficient heterocycles	Pyridine, Quinoline
Halogen compounds	RC1; RBr; RF; RI
Sulfonic acids	R • SO$_3$H
Sulfonamides	R • SO$_2$NH$_2$

fect. Overall, therefore, the two processes balance out and the sulfonamide would not be expected to oxidize to any great extent.

2. Light Induced Polymerization

The properties which lead to ready oxidation also tend to make a molecule susceptible to polymerization, i.e., electron excessive properties. Catechols such as epinephrine and norepinephrine are particularly prone to polymerize as well as oxidize when exposed to light and air since the process of polymerization usually involves the creation of a free radical (unpaired electron species) by means of the energy introduced by light. The polymerizations which occur in catechols can be initiated and propagated as shown in Inset 4. The chain reaction which results will produce extremely complex mixtures of highly colored polymers, one possible reaction being shown below:



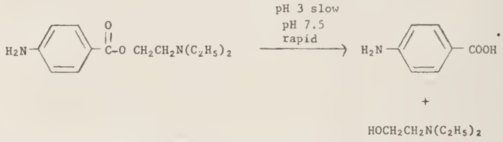
3. Hydrolysis

One of the most common decomposition reactions which occurs in drugs is hydrolysis in presence of moist air or in solutions of pharmaceuticals. Much time has been devoted to the investigation of the kinetics of hydrolysis, and to the establishment of optimal conditions for the storage of drugs susceptible to hydrolysis. Obviously it is also a factor which must be taken into account in the preparation of sterile dosage forms.

Hydrolyzable functional groups most commonly encountered in pharmaceuticals are listed in Table 4, together with examples of drugs which contain the groups.

a) **Esters**

Ester groups occur ubiquitously in drug molecules, and compounds which contain the ester group possess a wide variety of biological activities ranging from cholinergic (acetyl choline) to analgesic (meperidine and alphaprodine) action. Hydrolysis of esters is both acid and base catalyzed, though in general they are least stable in aqueous alkali for reasons which are explainable mechanistically as indicated in Inset 5. For example, the local anesthetic procaine will lose 0.5-1% potency in one year at a pH of 3.7-3.8 at 20°. However, at pH 7.5 the loss of potency is 1% in one day, decomposition being even more rapid at higher pH.

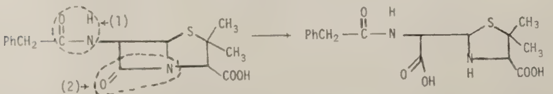


Stabilization of ester groups is usually accomplished in drugs by changing the type of ester so that the approach of an attacking species (e.g. hydroxyl ion, $OH^{\ominus}$) is hindered

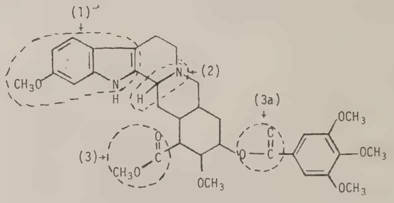
EXAMPLES

Realizing that chemical structures are an anathema to many pharmacists, it is nevertheless our intention to discuss the stability of a number of drugs by referring to their chemical structure, and using some of the information provided earlier in this article. In the main, the examples used will be drugs of known stability so that this can be related to the chemical reasons for the predictions which can be made. It is relatively easy to predict the stability of one isolated chemical group: difficulties arise in gauging the effects of several groups on each other within a molecule.

a) Penicillin G, below, possesses a number of chemical groups which have previously been discussed. The amide group $\underset{H}{N}-\overset{O}{\overset{\|}{C}}$ (1) in the side chain is stabilized by resonance and is thus relatively stable. The $\underset{H}{N}-\overset{O}{C}$ g group (2) contained in the smaller ring of the penicillin is also an amide. However, as mentioned in the section describing aziridines and epoxides, rings having less than five members are strained and unstable. This strain is enhanced by the electronegative nitrogen, and an unstable situation exists. In addition, resonance stabilization is not possible because the small bond angles prohibit this type of interaction. Hydrolysis therefore occurs as shown, and the four membered ring breaks to give an inactive degradation product:



b) Reserpine, though no longer a widely used drug, provides an excellent example of what is, at first glance, a complicated structure which might defy stability prediction. However, analyzing the structure in terms of previously discussed simpler molecules, it can be seen that:



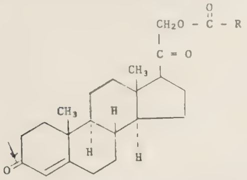
RESERPINE

(1) an indole group is present (circle 1). This electron excessive heterocyclic moiety will be vulnerable to oxidation and polymerization reactions;

(2) an asymmetric center (circle 2) is present adjacent to an electronegative atom. This would be vulnerable to epimerization (racemization) reactions;

(3) two ester groups (circles 3 and 3a) are present, both of which could be vulnerable to acid and alkaline hydrolysis.

In fact all of the above reactions can and do occur. The sterically by the sheer bulk of the substituents in the vicinity of the ester group. Many drugs which have a quaternery carbon atom (a carbon to which no hydrogen atoms are attached) linked to the carbonyl group of an ester function in the drug molecule, have originally been synthesized with the specific intention of retarding the hydrolysis of the drug. Examples of this type of stabilizing influence can be drawn from the corticosteroids.

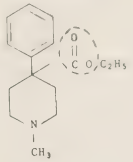


R = CH$_3$ methyl

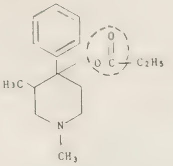
R = -C(CH$_3$)$_3$ t-butyl

Desoxycorticosterone pivalate [R = $-C(CH_3)_3$] is much more stable to hydrolysis than the corresponding methyl ester. The size of the t-butyl group attached to the carbonyl of the ester greatly retards the hydrolysis of the ester group by preventing the approach of a hydrolyzing moiety, thus increasing not only the chemical stability of the drug, but also its duration of action as compared to the methyl analog.

Beware, however, of "reverse esters" of this type. Inset 5 (c) indicates an alternate mechanism for the hydrolysis of esters which have a quaternery carbon attached to the *oxygen* function of an ester group. Since this involves the protonation of an oxygen, and the rate limiting step is formation of a carbonium ion, steric factors are not important because of the very small size of $H^{\oplus}$, the attacking species. Thus, esters of this type will be less stable in acid than they are in alkali. Compare, for example, meperidine and alphaprodine.



Meperidine (Demerol®)



Alphaprodine (Nasentil®)

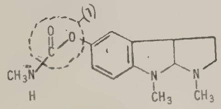
The former possesses one ester group in which a quaternery carbon is attached to the carbonyl $(C{=}O)$ function. The resistance to hydrolysis is thus very high and meperidine can be sterilized by autoclaving at slightly acid pH. The acid catalyzed hydrolysis of alphaprodine on the other hand goes via an intermediate carbonium ion (Inset 5), so that mechanistically the acid hydrolysis is favored. Steric hindrance (bulk of the substituents) is not a problem since the attacking proton ($H^{\oplus}$) is very small, and the eventual addition of water to complete the hydrolysis only occurs after the carbon-oxygen bond has cleaved. Hydrolysis of alphaprodine in acid solution will therefore occur much more readily than with meperidine.

b) **Amides**

The hydrolysis of amides is also acid and base catalyzed. However, for reasons discussed in Inset 6, much more vigorous conditions are required to break the $-\underset{H}{N}-\overset{O}{\overset{\|}{C}}-$ bond than are required to break the $-\overset{O}{\overset{\|}{C}}-O$ bond of an ester. Thus, while many esters will hydrolyze at room temperature, amides will, in the main, decompose

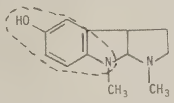
most easily detectable of course are the oxidations and polymerizations since both these processes will give visible products.

c) Physostigmine is another molecule which at first appears complicated. However, an examination of the structure would lead to the following conclusions:



(i) the compound possesses an ester group which will probably hydrolyse rapidly in the presence of alkali (circle 1). This hydrolysis will not produce any visible signs of decomposition.

(ii) one of the hydrolysis products will be:

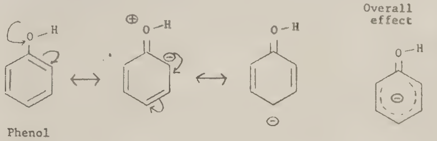


This product is an amino-phenol and as such is electron excessive. The structure will therefore be very susceptible to oxidation and polymerization reactions, the products of which will be visible. The overall decomposition is therefore readily detectable unless an antioxident is present.

The original compound (physostigmine) will be more stable at slightly acid pH at which pH hydrolysis reaction will be minimized. Note that the drug does *not* contain an indole moiety.

Inset 1

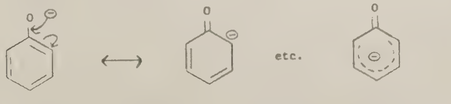
Phenolic hydroxyl groups donate electrons to an aromatic ring by means of a resonance interaction. This has the effect of increasing the electron density in the ring to a higher level than that of the parent molecule benzene.



Phenol

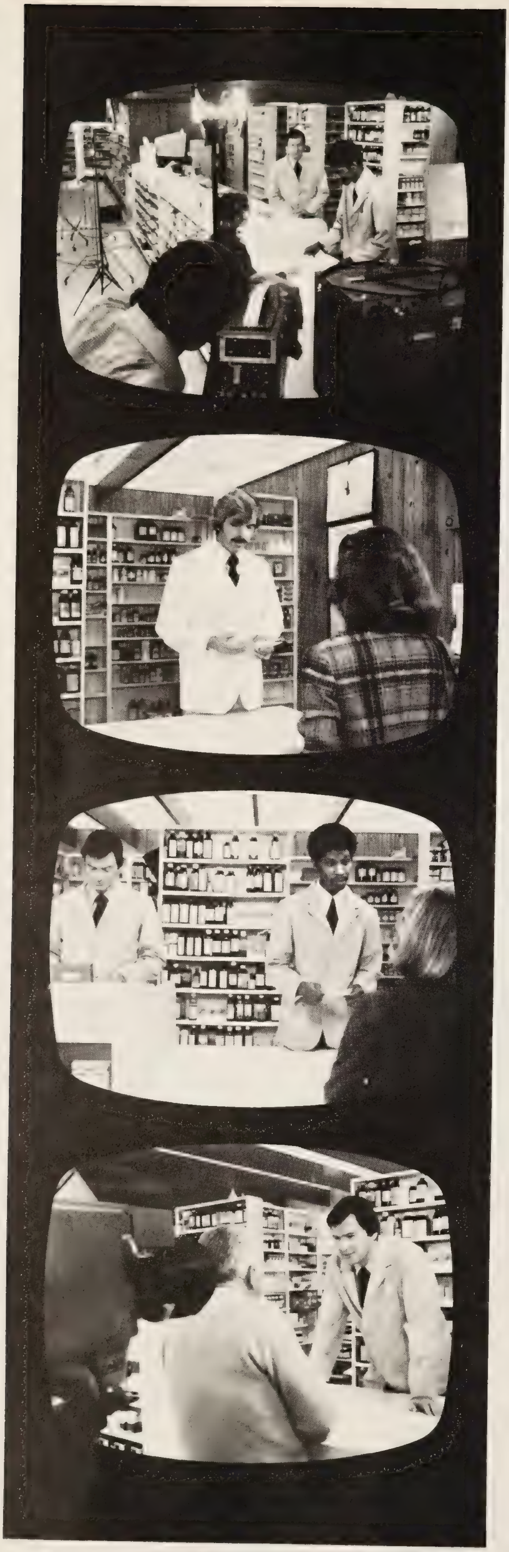
Electrons are thus available for oxidative processes. Note that the arrow indicates a movement of two electrons but only one negative charge since the electrons are shared.

In alkaline solution, phenol being weakly acidic, the phenoxide anion is formed. This has an even greater tendency to donate electrons to the benzene ring and is thus considerably more susceptible to oxidation than the free phenol.



Phenoxide ion

Overall effect



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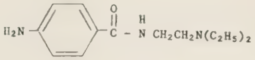
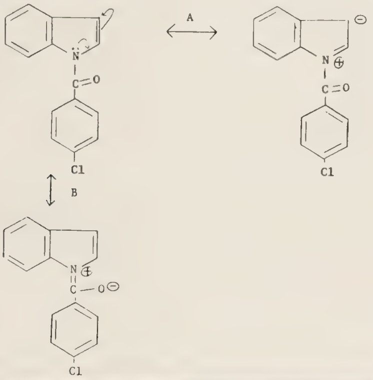
only at reflux temperatures. Procaine, as has been mentioned previously, will lose 1% of its activity by hydrolysis in one day at pH 7.5. Procainamide, which differs only in that it has an NH group replacing the –O– of the ester, remains essentially intact as an amide for an indefinite but long period of time. It should, however, be mentioned that procainamide, though essentially not hydrolyzed at all at room temperature, is still susceptible to oxidation by virtue of the aromatic amino group present para to the amide function.



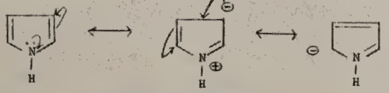
Procainamide

The amide group in indomethacin is exceptional, being quite readily hydrolyzed in both acid and base. The reason for this can be deduced by considering the phenomenon which makes the pyrrole and indole rings electron excessive (Inset 2), and that which stabilizes amides. Considering the benzoylated indole alone:



Inset 2

The pyrrole ring is aromatic by virtue of the fact that the nitrogen in the ring donates a lone pair of electrons into the ring system. The basic role of "benzene type" aromaticity (6π electrons in enclosed cyclic overlap) is thus satisfied.

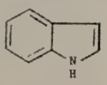


Pyrrole 2 Π electrons
for each double bond,
2 from the nitrogen.
Total 6 Π electrons.

The overall effect is an electron excessive (or π excessive) heterocyclic system. Susceptibility to oxidation is similar to that of aniline or phenol.

Since the basic properties of organic nitrogen compounds are associated with the ability of nitrogen to donate a lone pair of electrons to an acid, a second effect of the resonance interaction above is to make the nitrogen of pyrrole virtually non-basic.

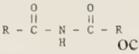
The indole ring is similarly susceptible to oxidation.

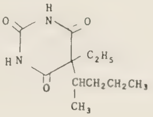


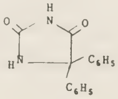
Indole

Resonance A involves the aromatization of the ring system and occurs at the expense of resonance B, which would normally stabilize the amide group. The amide linkage is thus considerably weakened, and in fact has properties similar to those in ester group rather than the high stability normally expected of an amide.

Imides

The imide group  $R-\overset{O}{\overset{\|}{C}}-\underset{H}{N}-\overset{O}{\overset{\|}{C}}-R$ occurs in numerous drug molecules, two examples of which are pentobarbital and diphenylhydantoin, below.



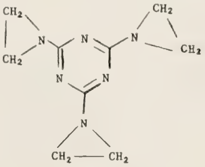


These compounds are even more stable to acid hydrolysis than are amides, the reason being that the resonance interaction between nitrogen and carbonyl groups is highly effective in stabilizing the molecule to attack by hydroxyl ion, hydrogen ion or water. Prolonged boiling is usually required for complete hydrolysis. The resonance interaction is also responsible for the weakly acidic properties of the barbituates and hydantoins, and makes possible the preparation of water soluble sodium salts.

Aziridines and Epoxides

These functional groups are mentioned in this rather brief survey because of their increasing importance in drugs which are used for cancer chemotherapy.

Aziridines are three membered rings containing a nitrogen, and epoxides are the corresponding oxygen analogs. In cancer chemotherapy the drug triethylmelamine (T.E.M.®) typifies the type of structure which utilizes the aziridine ring to alkylate specific nucleophilic sites in tumor cells.



T.E.M.®

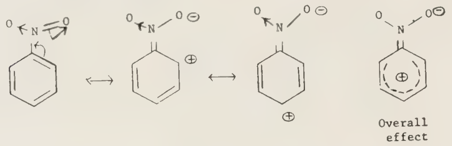
The tetrahedral structure of the carbon atom allows for an ideal bond angle of 109°. Any departure from this angle when carbon is bound to another atom imparts a strain and instability to the bond. The amount of strain depends upon the amount of distortion. Five and six membered rings have bond angles which are sufficiently close to 109° for the bonds to be strain free. However, ring systems smaller than 5 are strained and unstable. The aziridine ring is strained not only because of the three membered system, but also because nitrogen, being more electronegative than carbon, has a further bond weakening action. Aziridine rings are therefore unstable, and the hydrolysis of them occurs readily in both acid and base. Solutions should therefore be prepared immediately before use since the chemical half life of many of the aziridines will be in the order of minutes if the pH of the solution varies even slightly from neutral.

Racemization

This is a process by which optically active drugs become optically inactive. Though some drugs are administered as racemates (e.g. methadone, atropine) it is well known that in many cases one of the enantiomers in a racemic mixture is frequently much more active biologically than the other. Wherever possible then, chemically and economically, the active component is isolated. During storage, many optically active compounds may racemize slowly, and may eventually produce a compound with only half the potency of the original preparation. This type of "decomposition" is well known in the tetracycline antibiotics, and goes via a mechanism noted in Inset 7. In these drugs, the process is known as epimerization, a term which merely means the racemization of one asymmetric enter· when several are present.

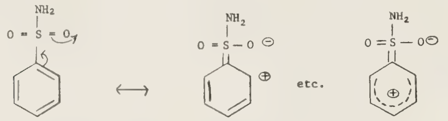
Inset 3

Electron Deficient Systems

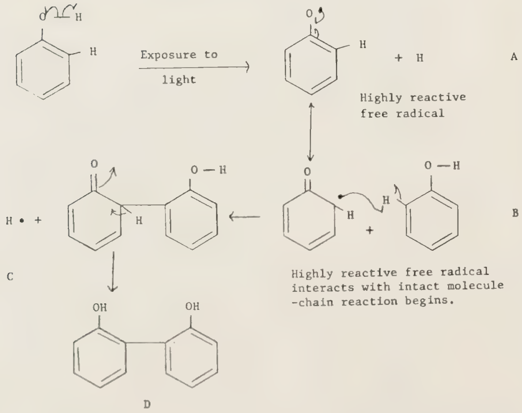


The nitro group is electron attracting, nitrogen being in the pentavalent state. The effect is to render the ring electron deficient by both resonance and dipolar (magnetic) effects. The ring thus resists oxidation.

Sulfonamide groups exert a similar deactivating and stabilizing effect:



Inset 4. Light Induced Polymerization Illustrated in a Phenol.



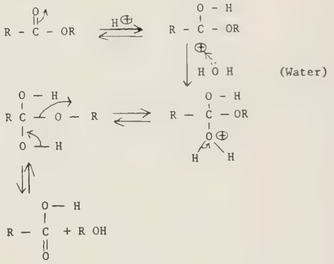
Highly reactive free radical interacts with intact molecule -chain reaction begins.

Exposure of an electron excessive aromatic molecule (e.g. phenol) to light induces the formation of a free radical which possesses an unpaired electron and is highly reactive. Reaction of the radical with a non-radical (e.g. reaction B) eventually forms a dimer (D) with the release of another free radical (H•). A chain reaction is thus propagated. Termination of the chain is by the reaction of one radical with another, e.g. $H\cdot + H\cdot \rightarrow H_2\cdot$.

Note that the movement of electrons in most of the above reactions is represented by a "one hook" arrow ↷ . This represents *one* electron, whereas the "two hook" arrow ↷ represents *two* electrons.

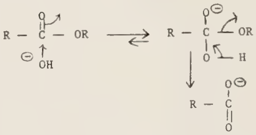
Inset 5. Hydrolysis of Esters

a) Acid Catalyzed



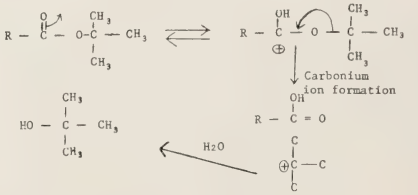
The process is reversible but the equilibrium is forced in the direction of the acid in the presence of a large excess of water, according to the Law of Mass Action.

b) Base Catalyzed



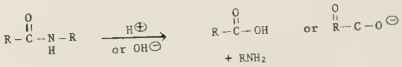
⊖OH has a negative charge and is therefore a much more powerful nucleophile than is water. This is one of the reasons why base catalyzed hydrolysis is more rapid in alkali than in acid.

c) Acid Catalyzed via Carbonium Ion

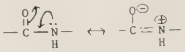


Three methyl groups attached to a central carbon make carbonium ion formation likely since the methyl groups are weak electron donors and stabilize the ion formation.

Inset 6. Stabilization of Amides

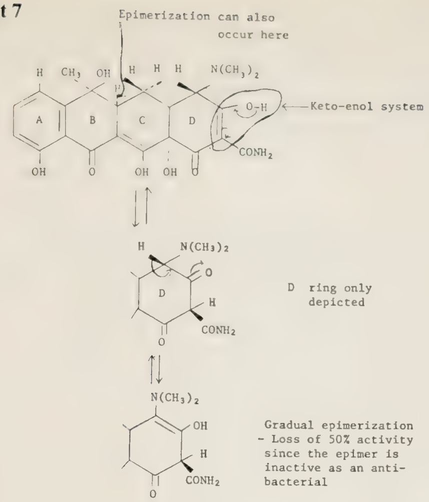


The hydrolysis usually occurs at elevated temperatures *not* at room temperature except under special circumstances (see indomethacin). Esters are hydrolyzed by the attack of a nucleophile on the positive end of the carbonyl group. With amides, the positive charge is delocalized by resonance interaction of the nitrogen attached to the carbonyl.



The C = O group is therefore much less susceptible to attack.

Inset 7



Epimerization can also occur here

Keto-enol system

D ring only depicted

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In general epimerization or racemization reactions occur when an "active" hydrogen atom, that is a hydrogen attached to a carbon with electronegative groups adjacent, is labile enough to tautomerize or exchange.

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calendar

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April 21-26 — APhA Convention, Anaheim, California

May 1 — Mailing date for Public Assistance checks

May 6 — AZO Berman Seminar

June 22-24 — MSHP Seminar — Hershey, Pa.

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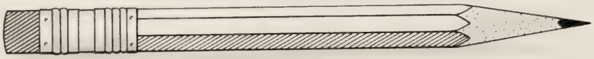

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446-8

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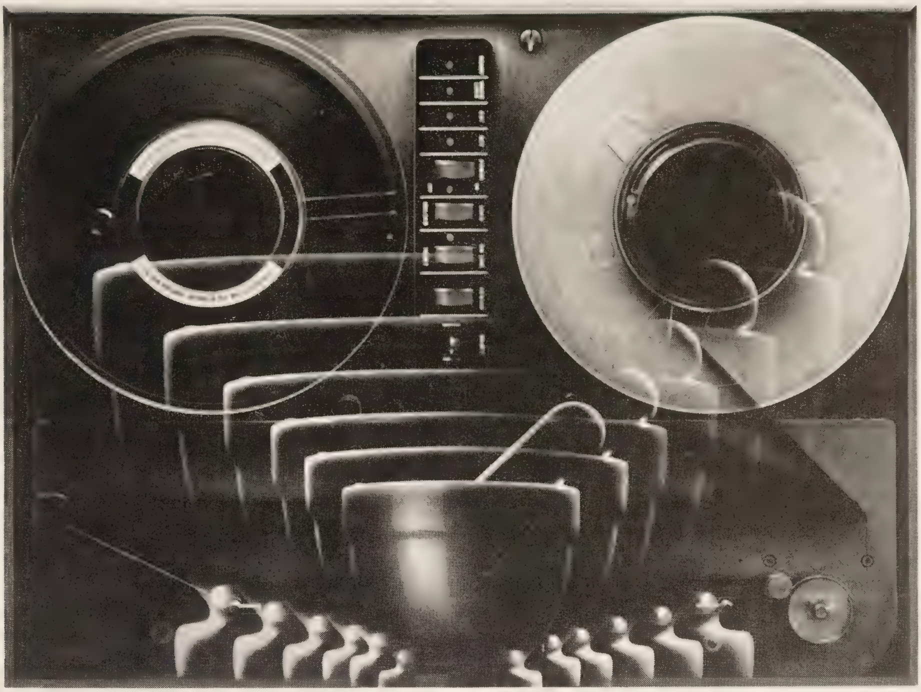

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HEW Report to Congress and the President on Pharmacists

PART II

Pharmacy Education

Although length of educational programs in pharmacy schools varies little between schools, schools have several combinations of years needed to obtain a pharmacy degree. The American Association of Colleges of Pharmacy compiles comprehensive enrollment statistics for only the final three years of study, since these years represent the only years of pharmacy education common to all schools. In 1976-77, the 72 colleges of pharmacy had a total of 24,082 students enrolled in the 3 professional years of study, with 8,208 students enrolled in the third-to-last year class (Table VII-4).

Enrollments in pharmacy schools have grown substantially over the last decade and a half, primarily since the late 1960's. Between the academic years of 1962-63 and 1965-66, third-to-last year enrollments grew only at an average annual rate of less than 3 percent a year. During the period from 1965-66 through 1974-75, following enactment and implementation of the Health Professions Educational Assistance Act of 1963, pharmacy schools experienced an average annual growth rate three times that great, or nearly 9.0 percent, in third-to-last year enrollments. Beginning in 1975-76, however, enrollments began to decline. In the fall of 1975 there was a decrease of 0.3 percent in third-to-last year enrollments, and a further decline of 6.1 percent in the fall of 1976. Much of this decrease appears to be due to the stabilization of male enrollments. Third-to-last year enrollments for males decreased by 941 or 18.9 percent in this two year period, while female enrollments continued to rise, increasing by 415, or 14.7 percent. In 1976, the proportion of women in the third-to-last year class was nearly two-fifths of the total, up from just over one-fifth in 1970.

In the fall of 1976 American students of minority racial-ethnic heritage represented nearly 9.0 percent of the total student population in colleges of pharmacy, up moderately from recent years. There were 938 Black Americans (4.0 percent of the total enrollment), 725 Asian Americans (3.1 percent), 353 Hispanics (1.5 percent), 37 American Indians (0.2 percent) and 36 others (0.2 percent). The four predominantly minority colleges of Texas Southern, Florida A & M, Xavier and Howard Universities continue to enroll just over one-half of the Black American pharmacy students. Since total enrollments in pharmacy schools appear to be stabilizing, minority enrollments may not increase significantly in the near future.

Trends in Pharmacy Education

To implement the necessary curriculum changes for clinically based programs, pharmacy educators have utilized general educational program tools, including the study of desired performance skills, the development of a competency-based curriculum and the use of a role model. They have often incorporated self-paced instructional programs, frequently utilizing computer assisted instruction (C.A.I.) to meet the needs of students with different learning styles. Efforts are also being made to continue examining the various levels of desired practice performance and corresponding preparation.

Curriculum emphasis has also shifted from the physical sciences to the biological sciences. This has also been described as a shift from "drug product orientation to patient orientation," and has greatly affected pharmacy educational programs. For example, an appreciation of patient compliance with medication instructions, especially among the aged, has resulted in greater emphasis and study in this area. Also, the size of pharmacy faculties has expanded to include clinical staff that can provide relevance to classroom instruction and also serve as "role models" in the

clinical setting. The American Council on Pharmaceutical Education now requires a clinical program of its accredited colleges, and this has provided further emphasis in this direction. Such programs may be quite varied since they generally reflect the practice opportunities available to graduates in the school's geographic area.

In the clinical practice programs, an interdisciplinary health-care team concept is often incorporated. Advanced students rotate through the clinical areas with students of other health professions, with the aim of improving communications between practitioners and patients. As a part of this trend toward establishment of support with patients, pharmacy students representative of the patient populations they will serve have been recruited. This has been demonstrated by the increasing proportions of women and minorities entering pharmacy education programs.

It is anticipated that such clinical practice programs will, in time, replace the traditional internship or apprenticeship program that traditionally followed graduation and preceded licensure. As such, the clinical internship programs are becoming a responsibility of the schools of pharmacy. Many schools are also becoming quite active in developing and sponsoring continuing education programs for pharmacy practitioners, particularly as States require a demonstration of competency to obtain re-licensure. The expansion of programs into the clinical areas has however, considerably increased educational program costs.

Projections of the Supply of Pharmacists

The projections presented here indicate the approximate future levels of pharmacy manpower under given assumptions. The enrollment in colleges of pharmacy is clearly the basic determinant of the future supply of pharmacists. As indicated earlier, enrollments in pharmacy schools increased rapidly during the period of massive Federal financial support. Current Federal legislation is not aimed at encouraging continued enrollment increases, and; as a result, pharmacy enrollments appear to be stabilizing.

Three projection methodologies have been used here to project future enrollments and graduates for pharmacy schools. Under the basic, or most likely assumption, total third-to-last year enrollments will not increase beyond the 1976-77 level of 8,208 students per year. However, female enrollments for this period are projected to increase by 150 students a year until 1980, then stabilize. Male third-to-last year enrollments are projected to decrease by this same amount. The methodology assumes that there will be no new schools beyond the 72 currently existing schools.

It is not possible to develop precise attrition rates for pharmacy students, because no longitudinal data are available. Based on recent experience attrition rates of 7.4 percent for males and 5.4 percent for females have been used to generate male and female graduate components to 1990. Using these rates, 92.6 percent of the male and 94.6 percent of the female third-to-last year students are expected to graduate 3 years later.

Under the basic methodology, it is projected that future graduating classes will produce a total gross graduate input of 128,820 for the 1974-90 period. Using the basic assumption the supply of active pharmacists is projected to grow from 116,562 in 1973 to 144,300 in 1980, and to 185,400 by 1990, this represents a total increase of approximately 69,000 pharmacists over the projection period. The male pharmacist supply is projected to decrease from 89.0 percent of total active pharmacists in 1973, to 80.9 percent in 1980, and is expected to further decline to 69.2 percent by 1990. Under this same assumption, the female supply is projected to increase from 11.0 percent in 1973, to 30.8 percent by 1990 (Tables VII-5 and VII-6).

It is not possible at this point to predict exactly what effect the increasing proportion of female pharmacists will have on the future pharmacy manpower work force. There is a strong possibility that the changing sex mix of the profession could have a major effect on the quantity of pharmacy manpower in the future, as it has been estimated that the professional career of women pharmacists is approximately one-half that of the average male pharmacist.[4] If these work patterns prove, in fact, to be true, then women pharmacists have a career equivalent about one-half that of males. This of course would reduce the supply of pharmacists services accordingly. It is a development that needs to be watched very carefully.

Under the low alternative enrollment assumption, the decline in third-to-last year enrollments which began with

Table VII-4. Trend in number of schools, enrollments, and graduates for pharmacy schools: academic years 1963-64 through 1976-77

Academic year	Number of schools	Enrollment in final three years			Enrollment third-to-last year			Graduates		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
1963-64	76	10,291	8,922	1,369	4,390	3,780	610	2,195	1,943	252
1964-65	75	12,104	10,409	1,695	4,491	3,885	606	3,393	2,893	500
1965-66	74	12,495	10,683	1,812	4,647	3,954	693	3,704	3,139	565
1966-67	74	13,221	11,152	1,916	5,234	4,474	760	3,782	3,252	530
1967-68	74	14,274	11,788	2,334	5,616	4,578	4,038	4,035	3,394	641
1968-69	74	14,932	12,069	2,684	5,469	4,385	1,084	4,291	3,565	726
1969-70	74	15,323	12,104	3,188	5,532	4,276	1,256	4,758	3,856	902
1970-71	74	15,626	11,956	3,370	5,864	4,515	1,349	4,747	3,749	998
1971-72	74	16,808	12,621	4,187	6,532	4,849	1,683	4,788	3,656	1,132
1972-73	73	48,956	13,936	5,020	7,546	5,452	2,094	5,184	3,858	1,326
1973-74	73	21,289	15,258	6,029	8,342	5,834	2,508	5,957	4,309	1,648
1974-75	73	23,235	16,168	7,067	8,734	5,910	2,824	6,712	4,825	1,887
1975-76	73	24,416	16,303	8,113	8,710	5,601	3,109	7,757	5,352	2,405
1976-77	72	24,082	15,226	8,856	8,208	4,969	3,239	NA	NA	NA

Source: Enrollment Report on Professional Degree Programs in Pharmacy, Fall 1976. American Association of Colleges of Pharmacy. Also prior annual editions.

Note: Enrollment figures are for the 3 professional years; third-to-last year figures represent the first year of the final three years.

Date for the University of Puerto Rico are excluded from enrollment and graduate figures for 1963-64.

the 1975-76 academic year is projected to continue but at a reduced rate at least until 1980 before leveling off. Total third-to-last year enrollments are expected to decrease by about 1.6 percent a year until 1980-81. Male enrollments will reflect most of the decrease, while female enrollments will continue to increase until 1980-81, when they will have reached approximately 48 percent of the third-to-last year class.

Under the high alternative assumption, increases of about 1.5 percent a year in third-to-last year enrollments are projected to begin again in 1977-78 and continue until 1980-81, then gradually decrease to a 0.5 percent increase through 1985-86 before leveling off. Again, most of the decrease will be reflected in male third-to-last year enrollments. The high alternative projects a total gross graduate input of 135,083, approximately 11,000 more than is projected under the low assumption.

Pharmacists and the Delivery of Care

Future requirements for pharmacy are heavily dependent on the role that pharmacists will play in the Nation's health care system in the coming years. The report of the Study Commission on Pharmacy[5] postulates that pharmacists are health professionals who could make an important contribution to the health care system by providing information about drugs to consumers and other health professionals. However, pharmacy is and will remain a differentiated profession in that all pharmacists do not possess or utilize the same knowledge and professional skills in every practice setting. The practice characteristics of a pharmacist in an independent community pharmacy, for example, are different from those of a pharmacist practicing in a hospital. Substantial differences in the character of total professional knowledge and skill may also exist, such as differences between the hospital staff pharmacist and the community pharmacist or between the pharmacist engaged in teaching at a large university or one employed by a drug manufacturer.

Another factor to be considered is that pharmacists spend a considerable amount of time in non-dispensing activities. A recent study has shed much light on how the large group of pharmacists in community pharmacies spend their time and deliver care.[6] The study determined that a pharmacist practicing in a community pharmacy setting is engaged in activities categorized as "productive" only part of the time. Although more than two-thirds of their activities were related to prescription and legend drug activities, non-health related activities accounted for one-fourth of their time, while idle time accounted for nearly one-fifth of their time. The study also found that pharmacists practicing in community pharmacies devoted a significantly higher proportion of their time to communication with patients than did pharmacists in other settings.

A more direct measure of the pharmacist's role in the delivery system, however, is the number of persons served personally each day. On the average, each pharmacist services 118 persons daily, the number of persons varying by setting and by whether or not a pharmacist utilizes non-pharmacist aides. Pharmacists employed by large chain commercial pharmacies on the average serve more persons daily than do pharmacists employed by smaller chain or independent community pharmacies, who serve about one-third fewer persons daily. Those in clinical or medical buildings serve about as many persons as pharmacists employed in small chains. Pharmacists employed in hospitals serve, on the average, somewhat more persons than in other settings. Those in nursing homes serve somewhat fewer persons, on the average.

The number of aides utilized by pharmacists is related directly to the number of persons the pharmacist is able to serve individually, a basic measure of pharmacist productivity. The vast majority of pharmacists (about five out of six) work with one or more aides or non-pharmacist auxiliaries. Pharmacists who do not utilize aides serve, on the average, about 101 persons daily. Although one aide appears to make only minimal difference in pharmacist productivity, utilization of more than one aide increases pharmacist productivity measurably. The employment of three or more aides allows the pharmacist to increase productivity, on the average, by about 15 percent. The use of non-conventional devices by the pharmacist, such as programmable typewriters and pre-packing equipment, also relates to increases in productivity.

In the years ahead, pharmacy and pharmacists can be expected to improve the efficiency of the process by which

Table VII-5. Supply of active pharmacists, using basic methodology and alternative assumptions: actual 1973, projected 1974-1990

Projected series	1973	1975	1980	1985	1990
			Number of active pharmacists[1]		
Basic methodology	116,600	122,500	144,300	165,200	185,400
Alternatives:					
Low	116,600	122,500	144,100	163,100	181,000
High	116,600	122,500	144,400	167,400	191,300
			Rate per 100,000 population[2]		
Basic methodology	54.7	56.6	63.8	69.5	74.5
Alternatives:					
Low	54.7	56.6	63.7	68.6	72.7
High	54.7	56.6	63.9	70.4	76.9

[1] Includes licensed pharmacists in the United States and Puerto Rico.

[2] Resident population as of July 1, for 50 States and the District of Columbia. Resident population for Puerto Rico has been estimated based on Bureau of the Census population of Puerto Rico for 1973.

Source: 1973 active pharmacists: Unpublished data from NIH Contract No. 71-4178. Pharmacy Manpower Information Project, American Association of Colleges of Pharmacy, 1973.

Population: U.S. Bureau of the Census. Current Population Reports. Series P-25, No. 601.

prescription drugs are dispensed. This efficiency can be accomplished by exploiting opportunities for mechanization and automation for the performance of routine and nonprofessional tasks. This will require the use of more workers in technical and clerical roles, freeing the fully-trained pharmacist to do tasks which require his knowledge and skills, and to become more concerned with patients and their well-being in relationship to drugs.

Projected Requirements for Pharmacists

Although it is difficult to forecast the exact number of pharmacists required in the future, indications are that requirements for pharmacists may not increase as rapidly as the supply of these health professionals. However, a number of factors must be taken into consideration, which might mitigate the likelihood that the supply might exceed the requirements for pharmacists.

One measure of requirements for pharmacists is the optimum ratio of 62.5 pharmacists per 100,000 population utilized by the profession. On this basis, 153,200 pharmacists would be required in 1990, as compared with a projected supply of 185,400 in that year. Another method for estimating pharmacy requirements to 1990, utilizing the highest current State ratio of pharmacists to population as a standard, results in an estimated requirement of 173,800 pharmacists in 1990, still somewhat below the projected supply. The Soar general model indicates a requirement for pharmacists about in line with the projected supply.

Looking more closely at the projected mix of pharmacists by sex in 1990, however, gives a somewhat clearer requirements-supply picture. On this basis, the full-time equivalent supply of active pharmacists will likely be substantially fewer than the actual number of 185,400 pharmacists projected. In that year, the proportion of active women pharmacists may have nearly tripled over current levels, and the aggregate number of women in the profession may have increased more than four-fold. Because of the shorter working life for women and their proclivity toward part-time employment, the number and ratio of full-time pharmacists is expected to be less than the aggregate totals would imply. It is likely, therefore, that supply and requirements for pharmacists will be much more closely in balance than would appear initially on the basis of full-time equivalent pharmacists.

Another area of possible growth is in expansion of hospital pharmacy services. Projections based upon existing unit dose medication technician-clinical pharmacists systems indicate that over 70,000 hospital pharmacists would be required if this level of service were to be available on all general medicine and surgery beds today. The expansion of beds and the extension of the clinical service to 24-hour availability would also increase the requirements.

Data and Analytical Needs

The data collected in the 1973-74 inventory of pharmacists by the American Association of Colleges of Pharmacy and supported by the Bureau of Health Manpower represents the latest available data on pharmacists in the Nation. Although presently somewhat dated, these data provide an adequate base for some descriptive and analytical efforts. More frequent collection of data on pharmacists is needed to provide more current information which is particularly necessary for work requiring small area geographic analysis, such as designation of pharmacy manpower shortage areas.

Pharmacy is one of the 13 occupations included in the Cooperative Health Statistics System (CHSS) under the auspices of NCHS, and plans call for frequent updating of the inventory data base when resources permit. Although CHSS statistics on a current basis would provide much of the immediate data for analytical needs for pharmacists, other areas of interest are not adequately measured. Data are needed on the emerging role of pharmacists in the clinical area and on newly graduated pharmacists.

Comparability With Other Data

The data on pharmacy manpower used in this report are derived from the 1973 inventory of pharmacists conducted by the American Association of Colleges of Pharmacy (AACP) and supported under contract by the Bureau of Health Manpower, HRA. Estimates based on these data are not comparable with earlier estimates of pharmacy manpower released by the National Association of Boards of Pharmacy (NABP) and are about 10 percent lower than those published by NABP. The NABP estimates did not

Table VII-6. Third-to-last year enrollments and graduates in pharmacy schools, by sex under basic assumption: actual and projected

Academic year	Third-to-last year enrollment[1]			Graduates[1]		
	Total	Male	Female	Total	Male	Female
1973-74	8,342	5,834	2,508	5,957	4,309	1,648
1974-75	8,734	5,910	2,824	6,712	4,825	1,887
1975-76	8,710	5,601	3,109	7,549	5,227	2,322
1976-77	8,208	4,969	3,239	7,910	5,295	2,615
1977-78	8,208	4,819	3,389	7,897	5,018	2,879
1978-79	8,208	4,669	3,539	7,451	4,452	2,999
1979-80	8,208	4,519	3,689	7,455	4,317	3,138
1980-81	8,208	4,369	3,839	7,410	4,183	3,227
1981-82	8,208	4,369	3,839	7,465	4,049	3,416
1982-83	8,208	4,369	3,839	7,469	3,914	3,555
1983-84	8,208	4,369	3,839	7,469	3,914	3,555
1984-85	8,208	4,369	3,839	7,469	3,914	3,555
1985-86	8,208	4,369	3,839	7,469	3,914	3,555
1986-87	8,208	4,369	3,839	7,469	3,914	3,555
1987-88	8,208	4,369	3,839	7,469	3,914	3,555
1988-89	8,208	4,369	3,839	7,469	3,914	3,555
1989-90	—	—	—	7,469	3,914	3,555
1990-91	—	—	—	7,469	3,914	3,555

[1] Enrollments for the Fall of 1973-76 are actual. Graduates are actual through the Spring of 1974-75.

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"I'm convinced that good working relationships with your employees is one of the most challenging aspects of pharmacy management today," says Pharmacist Gilbert Weise of Jacksonville, Fla.

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adequately reflect the fact that a substantial proportion of pharmacists hold licenses in more than one State. The current AACP data allows for this fact; therefore, those pharmacists who may be eligible to practice in more than one State were only counted once.. Although the current report is based on the most complete and accurate data on pharmacists available, much research still needs to be done.

The figures for community, hospital and nursing home pharmacists are probably complete, since all such pharmacists are engaged in dispensing drugs. The laws of several states and jurisdictions require that pharmacists be registered in order to dispense drugs. However, a pharmacist does not now have to be registered or licensed to teach pharmacy, to hold a pharmacy position in government, or to work in a pharmaceutical capacity for a drug manufacturer or distributor, or even in a drug information center. Hence, one might conclude that the figures may understate the number engaged in pharmacy activities other than those in community and hospital pharmacy.

Pharmacist Projection Methodology

Estimates of the number of active pharmacists for 1974-90 are based upon the number of active pharmacists, by age, as of December 31 of each year, plus new graduates, and attrition to both groups. Using the base-year age distribution of pharmacists, new graduates were added year by year to those pharmacists active as of December 31 and to the new graduates. Age-specific separation rates were then applied to these totals. Estimated "losses" due to deaths and retirements[7] were then subtracted, by age group, from the active pool, with the pool being aged by 1 year each time.

[1] Pharmacists for the Future, the report of the Study Commission on Pharmacy, commissioned by the American Association of Colleges of Pharmacy, used by permission of AACP.

[2] Pharmacy Manpower Information Project, Feasibility Phase Report Number 1. American Association of Colleges of Pharmacy. NIH Contract No. 71-4178.

[3] Blake, Martin I., Ph.D. "The National Pharmacy Licensure Examination: Recommendations for Change" J. Am. Pharm. Assn. V NS17, No. 6, June 1977.

[4] Pharmacy Manpower Information Project. Feasibility Phase Report-1. American Association of Colleges of Pharmacy. Contract No. NIH 4178.

[5] Pharmacists for the Future, *op. cit.*

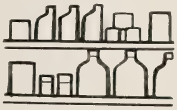
[6] Rodowskas, C. A., Jr., and Dickson, W. M. Feasibility Phase Report-1, Pharmacy Manpower Information Project. NIH Contract No. 71-4178, American Association of Colleges of Pharmacy.

[7] Losses due to retirement are based on a Bureau of Labor Statistics Report by Fullerton, Howard N., Jr. Length of Working Life for Men and Women, 1970. Monthly Labor Review. pp. 31-35, February, 1976.

Losses due to death were developed by using the mortality experience of white males and females, 1970. National Center for Health Statistics.

Current graduate and enrollment statistics were obtained from annual reports published by the American Association of Colleges of Pharmacy (AACP).

Graduate projections were computed for the basic supply methodology and for the two alternative supply assumptions from the number of third-to-last year students reported three years earlier.



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VITAMINS, MINERALS AND OT
PHARMACIST'S GUIDE TO

by Made
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(Detach these page

Part II of the guide includes those elements commonly found in multi-vitamin and mineral preparations. Several have become increasingly popular among "health food" advocates and are being sold as diet supplements alone.

The animal body requires seven elements in macro amounts. The Guide only includes calcium, phosphorus, magnesium and potassium among this group. (In addition, chloride, sodium and sulfur are essential but do not appear as diet aids.) The trace elements include cobalt, copper, iodine, iron, manga-

PART II — THE MINERALS

MINERALS	U.S.R.D.A. (recommended daily allowance)	SOURCES (natural and synthetic)	"FACTS" (biological or therapeutic uses generally accepted by medical community)	"FICTIONS" (popular uses not generally accepted by medical community at this time)	TOXICITIES AND INTERACTIONS
Calcium	adults: 1 gram	• Leafy green vegetables • Dairy products • Sesame seeds • Bone meal • Dolomite • Calcium lactate • Calcium gluconate • Calcium carbonate	• Rigidity of bones & teeth • Normal muscle function • Nerve transmission • Clotting of blood • Need increased during growth, pregnancy and lactation • Stress depletes calcium (cortisone demineralizes bone) • Calcium loss significant in sweat	• Osteoporosis — used to prevent in post menopausal women (FACT: Calcium does not increase bone density. Fluoride deficiency may play role.) • To relieve insomnia • To prevent palpitations during exercise • To relieve anxiety	• Vit. D required for calcium absorption • Increased calcium intake has diuretic effect. • Phytic acid (cereal) decreases calcium absorption
Phosphorus	adults: 1 gram	• Abundant in all food sources • Liver • Wheat germ • Lecithin • Yeast } high P. but low calcium	• Major part of mineral content of bone • Important in energy transfer • Nutritional phosphate deficiency unlikely if food is ingested sufficient to meet caloric and protein requirements.		• Excess phosphorus intake can lead to calcium depletion; hence calcium supplementation is advocated by many health food advocates.
Magnesium	adults: 400 mg.	• Dolomite • Spices • Nuts • Grains • Bone meal	• Intracellular cation — functions in biological oxidations • Spontaneous nutritional deficiency is unlikely • Diarrhea may lead to significant loss leading to tetany, general neuromuscular irritability.	• Used in treatment of certain schizophrenias • Part of megavitamin therapy for emotional disorders • Prevention of heart attacks (antagonizes cholesterol formation)	
Potassium		• Fruits • Vegetables	• The major intracellular cation • Maintains transmembrane potential • Osmotic equilibrium • Important in carbohydrate and amino acid metabolism • Supplementation may be required in diuresis	• Advocated as adjunct to "Fructose Diet"	• 10 mEq. Potassium may be included in OTC multivitamin-mineral preparation.
Copper	adults: 2 mg.	• Liver • Seafood • Kelp • Bran • Nuts • Legumes • Cocoa	• Bound to protein — several have enzymatic function • Malnutrition due to lack of dietary copper not established • Certain anemias associated with low serum copper • Excess copper characteristic of Wilson's disease — neurological degeneration	• To prevent "weakening" of arteries, especially aorta	• Penicillamine chelates copper
Iodine	adults: 100-150 mcg.	• Seaweed • Seafood • Iodized salt	• Regulates rate of energy exchange: calorigenic as thyioxine • Regulates growth and differentiation • Sexual maturation • Adequate neuromuscular function • Healthy skin, hair	• Iodine deficiency may be associated with increased risk of breast cancer. Supplement recommended in estrogen therapy	• High fluoride intake may interfere with iodine.
Iron	adults: 18 mg.	• Liver • Enriched cereals • Beer, wine • Iron cooking vessels • Ferrous salts	• Production of hemoglobin — lack of iron "iron deficiency anemia" • Myoglobin in muscle • Essential for certain enzymes • Need increased in pregnancy and childbirth • Menstruating female may require supplementation • Chronic bleeders may require supplement. *Source of deficiency should be identified	• Taken to relieve feeling of tiredness, nervousness, run-down feeling	• Ferrous sulfate is best & cheapest source • To decrease gastric upset, take with food or reduce dosage • Vit. C enhances absorption

R DIETARY SUPPLEMENTS: A
E FACTS AND FICTIONS

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st for reference)

nese, selenium, zinc as well as chromium, fluorine and molybdenum which have just recently been recognized as important in human nutrition. The F.D.A. has not established a Recommended Daily Allowance for several of the elements. Food sources are recognized as variable in mineral content due to soil conditions and processing and this provides the rationale for the inclusion of these elements in nutritional supplements.

		• Cereals • Dried fruits • Legumes	pregnancies involving neurological disorders. • Manganese essential in embryonic skeletal development • In normal reproductive function • Abnormal Manganese turnover demonstrated in rheumatoid arthritis		• Chronic Mn poisoning in mining: neurological disorders.
Selenium	none established	• Nutritional sources highly variable — geographically • Brewer's yeast • Meats • Eggs • Onions, garlic	• Functions as antioxidant, similar to Vitamin E • Extensively studied in livestock, human metabolic function not clarified.	• Sold in combination with Vit. E or alone for: • relief of angina • protection against heart disease • to slow aging process • to stimulate immune system	• Children living in high seleniferous area have higher incidence of dental caries.
Zinc	adults: 15 mg.	• Meats • Wheat germ • Oysters • Bran • Nuts • Legumes • Zinc salts: sulfate oxide gluconate	• Growth requirement • Sexual maturation • Stimulates wound healing (orally) • Involved in insulin storage and release (deficiency is not associated with diabetes) • Zinc levels low in atherosclerosis • Important in maintenance of mucus membranes — maintains normal concentration of vitamin A • Orally, zinc levels increase in bone and hair when supplemented • Orally in acne • Hereditary disorder of zinc absorption corrected by oral zinc supplement • Topically to relieve dandruff		• Vit. D stimulates Zinc incorporation in bone • Zinc toxicity mainfested in nausea, vomiting, gastric bleeding • Diets high in phytates and other chelates (EDTA) decrease zinc absorption
Chromium	none established	• Spices • Brewer's yeast • Whole grains • Seeds • Chromium 3+ salts	• "Anti-diabetic effect" — Cr^{+3} improves glucose tolerance in age-related onset of diabetes. • May be cofactor in insulin response • Important in insulin-related amino acid uptake May decrease serum cholesterol in certain patients • Chromium deficiency leads to impaired growth.		
Fluorine	none established	• Fluoridated water • Industrially contaminated water • NAF (Rx)	• Ingestion prevents dental caries • Topically to reduce caries • Important in maintenance of human skeleton	• Supplementation may prevent senile osteoporosis in women • Supplementation in men may decrease incidence of aotic calcification	• Excess ingestion mottles tooth enamel, weakens bone.
Molybdenum	none established	• Legumes • Grains • Cereals • Nuts	• Growth requirement. Essential cofactor in certain enzymes. • Low serum molybdenum associated with certain anemias		
Cadmium	none established	• Oysters • Anchovies • Wheat germ	• Elevated cadmium associated with uncontrolled hypertension		
Cobalt	none established	• Leafy green vegetables • Constituent of Vit. B-12	• Oral cobalt salts used for vasodilatory effect in certain hypertensive patients		

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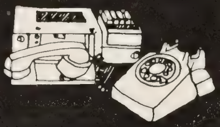

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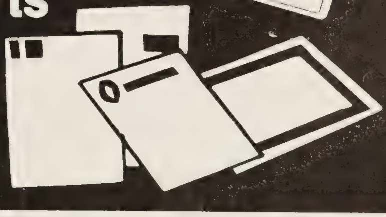

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USP DRUG PRODUCT PROBLEMS REPORT*

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Drug Product Problems Report

1. *Product Mixups*

(a) A New York pharmacist who knew that 10 mg isosorbide dinitrate oral tablets were often white, suspected that the pink tablets he had received were 5 mg. The FDA confirmed his suspicions that 5 mg tablets were packaged in the bottles labeled as 10 mg. The product was recalled by the relabeler involved.

(b) A pharmacist from Pasadena, California noticed that tablets labeled as thiamine hydrochloride 100 mg were of varying thicknesses. The firm first responded that this was because the tablets were of soft composition and that the potency was not affected. But an inspection and a subsequent assay by the FDA revealed that the unit dose packages contained 50 mg tablets intermingled with the 100 mg tablets. The product was recalled.

(c) Based on a report from a Texas pharmacist, the FDA conducted an inspection that led to the recall of a dioctyl sodium sulfosuccinate product. The pharmacist had found a bottle of capsules of the stool softener labeled as gelatin capsules. The mixup between the two had occurred when they were both repacked on the same day and labeled on the next day. The firm had not maintained complete accountability of the labels for its products.

2. *Packaging Problems*

(a) A California pharmacist reported that his last two pints of an expectorant with codeine were improperly sealed and had noticeable leakage around the lid. Although the pharmacist commented that this was probably only a minor problem, the manufacturer pursued the problem to its source. According to an FDA account, the firm purchased a new capper and ordered four torque testers in response to this report.

(b) A Missouri pharmacist called on the DPPR WATS line to report that the Isopropyl Alcohol 99% in his stock was dissolving the lining of the cap and the seal of the bottles in which it was packaged. A letter from the manufacturer explained that products containing high concentrations of alcohol require a special cap that cannot be substituted. However, the packaging department had apparently used another cap in error. The packaging department was made aware of the special requirement and the problem was corrected.

(c) Analgesic rectal suppositories packaged in foil strips were not separating properly as a result of improper perforation. The suppositories were often exposed because of the tears that would result. The manufacturer verified these observations reported by a pharmacist in Washington, D.C. The problem was with dull perforating jaws on the wrapping machines. The maintenance department at the firm was to replace or sharpen the perforators to overcome the problem.

3. *Contaminations*

(a) Vitamin B Complex tablets with ''remains of insect found in the bottom of a container'' were reported by a Massachusetts hospital pharmacist. The manufacturer indicated that it took the following actions in order to prevent a recurrence: 1) authorized the installation of air curtains and insectorators and 2) conducted an employee training session in which the employees were updated and retrained on proper procedures to be maintained.

(b) An Oklahoma pharmacist reported finding two pieces of aluminum wire and a paper seal in a one pound jar of hydrocortisone cream. The firm informed the reporter that the materials had been used to cover the ends of tubing utilized in the manufacture of the product. Although the problem was an isolated incident and replacement material sent to the pharmacist was expected to be satisfactory, the manufacturing firm took the opportunity to use this DPPR as the topic of a Good Manufacturing Training presentation to its employees.

4. *Product Stability and Uniformity Problems*

(a) A customer returned a tube of vaginal cream to her pharmacist because it was crystallizing. The pharmacist reported the problem to USP and this prompted the firm to investigate. They confirmed that the crystallization had made the cream unsuitable for sale. The product was removed from the market until the source of the difficulty could be corrected.

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*This report covers some of the recalls, product improvements, and explanations to which the Drug Product Problem Reporting Program has contributed. The product and company names are omitted; and no reflection on any specific manufacturer, distributor, reporter, or product is intended or should be inferred from the case studies. It is hoped that these examples will indicate to the reader some of the problem areas where he or she may want to be alert; e.g.: package insert information, package designs, labeling, unusual or improper drug product appearance.

The work upon which this publication is based was performed by the USP Convention pursuant to Contract No. FDA 223-78-3002 with the Public Health Service, Food and Drug Administration, Department of Health, Education, and Welfare. (This report is not copyrighted and permission is not needed to reprint case studies.)

(b) Two bottles of a potassium chloride liquid were a different color and the pharmacist felt the lighter one was abnormal. After evaluating this report and reviewing information in their files, the FDA conducted an inspection of the manufacturer. The inspection revealed that the firm failed to: 1) identify and hold rejected components, 2) establish laboratory controls that included the collection and retention of reserve samples of finished products, 3) provide for reconciliation between actual and theoretical yields, and 4) maintain complete records of oral or written complaints. A regulatory letter was issued by FDA to the firm citing these and other Good Manufacturing Practices (GMP) violations.

(c) A Georgia pharmacist reported that a green film-coated tablet was fading to a light tan. The manufacturer placed the blame on the blue color component which was known to be light-sensitive and proposed using another coloring agent and packaging the product in light resistant containers to eliminate the problem.

5. *Labeling Problems*

(a) The foil wrap on an acetaminophen 125 mg rectal suppository listed only the trade name and the strength in apothecary units. A Pennsylvania hospital pharmacist reported that the nurses were not familiar with the obscure trade name and consequently did not know what they were administering. The manufacturer responded that space limitations had originally dictated the labeling; however they were developing new foil packaging which will bear the generic identification.

(b) The label on the aminophylline injection read 250 mg, but did not indicate the volume that contained this quantity of drug. The pharmacist reporting this said it was unclear whether 250 mg was contained in one milliliter or in the total volume (10 ml) of the vial. The FDA conducted an inspection and determined that the firm had added "25 mg per ml" to the label to correct this situation.

(c) Bottles of a pediatric elixir were accompanied by a dropper for accurate administration of the drug. The package insert described the dropper as being "marked in divisions of 0.2 cc, each corresponding to 10 mcg" of drug. However, the dropper was actually graduated in 0.1 cc markings. The pharmacist reporting this discrepancy was worried that this could result in confusion when calculating doses. The manufacturer revised the package insert to properly describe the current dropper system.

(d) A Veterans Administration Hospital pharmacist noted that the label on multiple vitamin capsules described the ergocalciferol present as vitamin B instead of vitamin D. The FDA inspected the labels and the printing facilities to confirm the misbranding. The labeler recalled the product by letter.

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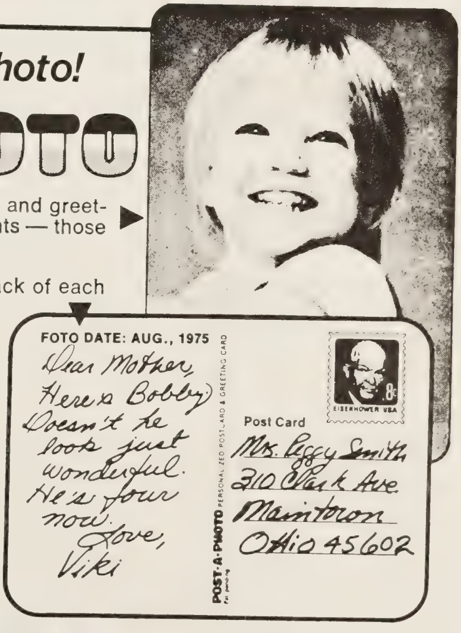

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Pfizer PHARMACEUTICALS

‘‘Pharmacist Consultation with Dental Patients

by
Richard M. Oksas Pharm D, MPH
Asst. Prof. of Clinical Pharmacy
University of Maryland Dental & Pharmacy Schools

BACKGROUND

This year represents a historic date in relation to co-operation between the professions of pharmacy and dentistry. There has been ten years of national involvement since the founding of the ADA-APhA Liaison Committee. Simultaneously, five years has passed since the Dent-Pharm Therapeutics Program was started at the University of Maryland to stimulate co-operation on the statewide level. The aim of both ventures is to promote higher quality of pharmaceutical services and optimal application of practitioner skills for the dental patient.

The patient's interests can be best served in two distinct, but not necessarily exclusive areas. The first being to provide enlightenment on the appropriate use of prescription drugs in dentistry. Emphasis here is largely placed on updating dentists about current developments in the field of clinical dental pharmacology.

Of equal importance and having far more long range impact is orientation of the community pharmacist to become an assistant in reinforcing preventive dental health concepts to patients. The justification for this new role is predicated on the fact that the pharmacist receives more daily contact with potential dental consumers than the dentist himself[1] while also being a major source in providing the OTC armamentarium required for proper oral hygiene. The extent of such interaction can be quantified in terms of economics alone in that $378 million in oral health product sales occurred nationally in pharmacies during 1977.[2]

THE ORAL HYGIENE CENTER

A comprehensive means to provide dental patient education in pharmacies was creation of the ‘‘oral hygiene center concept.’’ This idea was pioneered by Tom McGregor, a community pharmacist-educator from Wisconsin, in the late 1960's. Essentially, it was his philosophy to prominently display beneficial OTC dental aids in drug stores in such a manner as to stimulate discussion in their proper use with the attending pharmacist.[3] Since then, hundreds of pharmacies have subscribed to this approach and have noted broad acceptance of it in terms of patients and dentists alike.

Specific suggestions in establishing an oral hygiene center are:

(1) inclusion of only ADA approved dental products
(2) proximity of the ‘‘center’’ to the pharmacy case
(3) availability of dental health education literature adjacent to the ‘‘center.’’

While this physically creates the desired effect, it can not be stressed enough that the most important component in proper use of the ‘‘center’’ is contact with a dentally-aware pharmacist who can help in selection and demonstrate proper use of dental OTC's.

Recognition of the importance of the pharmacist role is acknowledged by the fact that currently 35 pharmacy schools provide an undergraduate unit on dentistry within their curriculum. A dilemma, however, occurs in that only 15 schools have discussed dental products as part of continuing education of pharmacists already in practice.[4]

CE PROGRAM PRE-TEST

In an attempt to close this information gap, the University's Dent-Pharm Program presented a series of continuing education seminars on dental OTC products for pharmacists last winter. Information provided consisted of a condensed format of undergraduate subject matter. Although weather did not allow for ideal attendance, those professionals who were present actively participated in discussion of proper selection of dental products.

Self assessment through the use of a pre-test by the audience was the chief means of evaluating prior knowledge and subsequent learning. Each pharmacist was asked to select the proper product(s) or provide an appropriate recommendation to a hypothetical patient in 15 different dentally related situations. It was gratifying to note that most of their suggestions would have been beneficial in reality.

SELF EVALUATION

Before further discussing our findings, I will afford the reader an opportunity to take the same pre-test to determine personal adequacy of knowledge in this field. The problems were presented in the following manner:

‘‘A patient arrives at your pharmacy with the following type of dental problem or question and asks your recommendations for selecting appropriate oral hygiene OTC products to meet their needs. Assuming that cost or compliance is not a factor, briefly describe what item or course of action you would suggest to them (you can be as specific as you want; if you feel that one brand is better than another, state its name, if not a general categorical name. Also, state if you would advise dental treatment rather than sell a product).’’

PRE-TEST

1. Common items used to prevent tooth decay
2. Any items to treat a periodontal patient not included in one above
3. Products for patients with dentures (to care for them properly)
4. An antiseptic mouthwash for normal daily use (bad breath)
5. An oral antiseptic to treat an oral infection (i.e., sore throat)
6. Toothache
7. Baby's teething pain
8. Cold or canker sores
9. Deep oral ulceration with fever and pain
10. Persistent oral lesion
11. Furry tongue
12. Bleeding gums
13. Teeth hypersensitive to hot or cold
14. Broken or loose teeth
15. Malfitting or broken dentures

Now that you've had a chance to take this pre-test, you can compare your answers with expert therapeutic advice in each of these situations.

APPROPRIATE COURSES OF ACTION

In reaction to situation #1, most pharmacists recognized the importance of advising the sale of a toothbrush and fluoride containing dentifrice to the patient. The American Dental Association's recommendations, however, are more specific in this matter. It is their view that the manual, straight-handled soft nylon toothbrush is suitable to meet the needs of most Americans because electric brushes have not demonstrated superior cleaning action at this time. Also, it appears that the type of fluoride in dentifrices is important in producing topical anticaries effects. Only those products which contain either stannous fluoride or monofluorophosphate (MFP) are accepted by their Council on Dental Therapeutics. The pharmacist, therefore should review the list of ingredients on dentifrices he stocks because most fluoride toothpastes use the less beneficial sodium fluoride in their formulation. Additionally, the recommendation of dental floss is important in reaching areas where the brush alone cannot clean.

Some practitioners in situation #2 stated that the additional sale of water-irrigators or dental stimulators was warranted in patients with gum disease. The truth of the matter is that the use of such aids remains controversial in terms of therapeutic benefit and recommendations regarding their utility is best reserved to the family dentist. In fact improper use of these in the hands of a well-meaning, but untrained patient may produce more harm than good. A special type of periodontic toothbrush should, however, be stocked for individuals who have undergone periodontal surgery.

The need for stocking denture products discussed in situation #3 cannot be overemphasized for pharmacies that serve elderly patients or ECF's (Nursing Homes). All pharmacists recognized the importance of denture cleansers. Several good ones are on the market, but it should be stated that their chemical composition can be toxic if swallowed by small children. Denture brushes also are ideal for more thorough cleaning of dentures before re-insertion. (Regular toothbrushes and dentifrices are too abrasive for denture materials.) Denture adhesives should not be sold on a routine basis but should be used only until a dentist can be consulted for proper denture fit.

Oral antiseptics are brought up in situations #4 & 5. This is to distinguish the point about their proper limitations. Any mouthwash will suffice in the first case, which is a cosmetic one, and is largely a matter of personal preference. On the other hand, there exists no product on the market that has been proven valuable in terms of producing massive germicidal killing action needed to treat oral infection. Phenolic types of products may exhibit a slight anesthetic effect to decrease immediate discomfort, but their concentration is insufficient to cure the causative illness and a dentist should be consulted if symptoms persist.

Problem #6 is representative of a dental emergency that is all too common to pharmacists. A tremendous divergence of opinion existed in terms of what advice to give among our CE group, many of which contain topical benzocaine or eugenol anesthetics. The difficulty in suggesting such therapy is that toothache is the symptom associated with deep caries (decay) that have infected tooth pulp and only in extreme cases will these products be absorbed to the site of pain. Furthermore in some instances if used chronically or improperly they can be tissue irritating and sensitizing. Therefore, a more rational approach would be to recommend a non-prescription systemic analgesic such as aspirin or acetaminophen until a dentist can be contacted.

Similar confusion occurred in the teething situation #8 with 11 products described by our attendees. Again, the problem is one of poor absorption of topical anesthetics to the affected area which creates pain. Acetaminophen elixir may be beneficial in extreme circumstances, but should not be used continuously. A pediatrician should be consulted in this regard when problems persist.

Situations #9 through #12 all deal with oral lesions. The classical "cold sore" or "canker sore" can be differentiated by its multiple blistered appearance and is of a herpes viral origin. Herpes usually takes two weeks to heal up and recurrent attacks are common. As such, treatment should be geared toward symptomatic relief. A wide variety of products are available and selection should be based on an ability to dry up the vesicle (i.e. alcohol) and to form a protective layer. When lesions are singular, large and pus containing, a dental abcess of bacterial etiology can be suspected. Because these can cause systemic complications (i.e. fever, malaise, etc.), they should be referred to a dentist. Also any persistent sore or growth should be diagnosed dentally to determine the possibility of oral tumor.

The problem of "furry tongue" may also be first presented to the pharmacist. The causative agent in this case often is the monilial fungus, Candida Albicans. Growth is associated with poor denture hygiene, long term antibiotic therapy and immunosuppression. It can only be treated by the use of the prescription medication, Nystatin.

(Continued on page 31)

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(Continued from page 29)

"Bleeding gums" found in item 12 are a primary initial symptom of gingival infection and periodontal disease. Tooth mobility, inflammation and swelling may also be present. No OTC product alone will help this situation and dental referral is always indicated.

Hypersensitive teeth (situation #13) can be due to thin immature enamel formation or may be the initial sign of pulpal infection. Two dentifrice products, Thermodent and Sensodyne, advertise effectiveness in decreasing sensitivity. Clinical studies conducted by the ADA have, however, determined these products to be useless in this regard. Again there is no substitute in this case for a dental appointment.

The last two instances presented in relation to loose or broken teeth, dental work or dentures always deserve immediate dental attention. The FDA has recognized the inherent danger of home repair of dentures and requires a hazardous product statement on the label of denture reliner and repair kits.

SUMMARY

We have presented you with some common advice in serving your dental clients. In general, there exist many useful OTC's which can be beneficial to preventing oral illness. On the other hand, most persons that are seeking curative outcomes should be referred to a dentist. We have been unable in the space allotted to cover fine distinctions between specific brands to be selected or the exact mechanisms of oral pathology. Further knowledge in this regard must be obtained through individual pharmacist commitment to continuing education.

There are several suggestions which can assist you in learning more about oral health. First, there are several pieces of literature which relate to dental disease and selection of appropriate OTC's. The ADA has published its product recommendations in its text entitled "Accepted Dental Therapeutics." Similarly the "Handbook of Non-Prescription Drugs" has a chapter devoted to dental products. Other inexpensive references include the ADA's free pamphlet "The Dentist and the Pharmacist" and the July issues of "Pharmacy Times" which are solely dedicated to the pharmacy-dentist partnership. We would furthermore encourage your contacting a community dentist in planning a pharmacy based oral hygiene center. He will be enthusiastic in the interest you've expressed to better serve his patients and will be glad to instruct you personally about his professional views about the products in question.

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Victory Claimed:

Pharmacist Now in U.S. Capitol Pharmacy

Congress

On February 21st, a decision was finalized to obtain a *full-time* pharmacist to dispense prescriptions for members of Congress in the U.S. Capitol pharmacy, reports Irving Rubin, Editor of *Pharmacy Times*. The decision was made at a meeting of the U.S. Senate's Legislative Branch Subcommittee chaired by Senator Jim Sasser (D-Tenn.). Dr. Freeman H. Cary — The Attending Physician, Congress of the United States — appeared before the Subcommittee and was involved in the decision.

Commenting on the real significance of this important decision which recognizes the pharmacist's professional expertise and cost-effectiveness, Pharmacist-Editor Rubin points out that the effort to get a pharmacist in the Capitol was designed to accomplish the following long-term goals:

(1) Alert pharmacists to the *vital* importance of being patient-oriented *and* politically-oriented. Right *and* might are needed in order to achieve goals via the democratic process.

(2) Emphasize a basic theme to Congress during a period when professional practice is often subject to legislative action. The theme was: "Whenever and wherever prescriptions are being dispensed, a pharmacist must do the dispensing or personally supervise it."

(3) Convince U.S. lawmakers that pharmacists have the ability to muster public support for their causes. This adds up to *more* respect for pharmacists' *expanded* political whack.

(4) Prove that, when Pharmacy unites on a project, the *combined* power — generated by pharmacists in its many branches — is very widespread and highly effective.

(5) Alert legislators to the importance of looking to pharmacy leaders for sound advice and suggestions with respect to *anything* that involves drug therapy. It is in this area that the pharmacist — a specialist — can provide cost-effective pharmaceutical services based on Clinical Pharmacy.

The effort to get recognition for the pharmacist's expertise also covered two other areas — the pharmacist in the military (Army, Navy, and Air Force) and in the Veterans Administration, Pharmacist-Editor Rubin notes. These two phases of the overall effort have also been successful, he points out, as is evidenced by the very recent increases in the number of pharmacists performing pharmaceutical services in the military and in the Veterans Administration.

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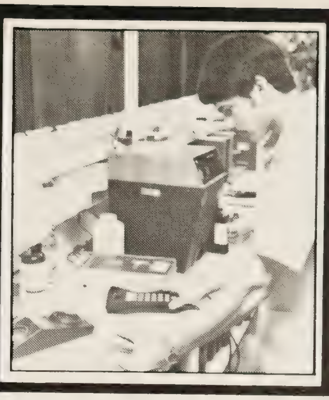

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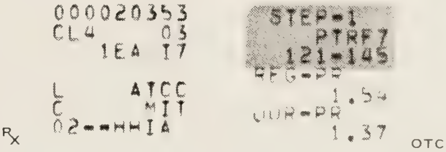

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Jeffrey A. Coleman — U. of Rhode Island
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Remember the summer of '78?

Last summer, four young people joined The Upjohn Company as part of the NPC Pharmacy Internship Program.

They added to their educational process . . . learned about manufacturing, quality control, pharmaceutical research, and marketing/sales.

We hope we answered their questions. Certainly, we took their suggestions to heart.

And when the 10 weeks were over, we parted knowing that we'll enjoy seeing each other in the years ahead.

And reminiscing about the summer of '78.

Upjohn

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Remarks of Milton L. Elsberg, President of Drug Fair Inc. Upon Being Named Honorary President Alumni Association University of Maryland School of Pharmacy

Most of my adult years have been spent in a love affair with the profession of pharmacy. I have found that affair to be a warm and richly rewarding one. It is a profession that has kept me ever mindful of the needs and concerns of other people. At its *best*, pharmacy is a measure of service to mankind and those of us who undertake this profession are making a commitment to give of ourselves for the rest of our active lives. Maybe that is why so many of us are such lousy businessmen and have such a hard time making a reasonable profit.

However, we sometimes lose sight of our professional obligations to serve mankind and the practical necessity of earning a profit. We seem to be constantly at each others throats — independents vs. chains, associations vs. associations, employed pharmacists vs. employers.

These gulfs that divide brother pharmacist from brother pharmacist — this deplorable "us against them" syndrome demeans the profession of pharmacy. Furthermore, it weakens our ability to combat the true, the most insidious threat to our profession — the creeping takeover of our professional freedeom of action by government and third-party organizations.

As Lincoln said, "We are not enemies, but friends." We have a common need for a fair return for services rendered.

Surely there is enough room in this enormous country of ours for both chain and independent pharmacies. My company now is blessed with 180 drugstores, but I still remember what it was like struggling to succeed with my first store, more than 40 years ago. The independent pharmacy can offer services a chain can never hope to duplicate. There will always be a need for independents. By the same token, there is also need for the many services that only chains can provide. So let us stop contending with each other and join hands in attacking the serious problems we face in common.

To those pharmacists who practice as employees of retail pharmacies, I appeal to you to realize that true professionalism derives not from narrowly and literally interpreting the practice of pharmacy in technical terms. You are not endangering your professionalism when you wait on a customer, or answer a telephone, or ring up a sale, or, yes, even pitch in to help the store manager in a pinch. If you owned the store, you would be mopping floors and unloading trucks and working fountains as I and many of you have done. Our job is to be of service to the public, whatever that means. We only realize the true fulfillment of our profession when we drop the shackles from our minds and hearts, and just help people — whatever it requires. I promise you that if we do, we will find far greater rewards, both professional and financial, than we will ever get by narrowly interpreting our professional prerogatives.

Once we all get our act together — independents, chains, and employed pharmacists, we can begin to spend more time on a most neglected priority: educating legislators.

Pharmacy is one of the least appreciated and least understood professions in the halls of Congress and in our legislatures. We only need consider the ridiculous state substitution laws, the proliferation of conflicting formularies, the inadequate Medical Assistance Program fees and the snowballing burden of needless regulations. We know we have our work cut out for us.

So let's join hands and work out our differences. If the Israelis and Egyptians can do it — the Chinese and the Japanese — the Germans and the French — and countless others, separated by centuries of hatred and suspicion — surely we of this great profession can do no less.

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Important Association business meeting and consideration of policy resolutions. A complete report on the state of Pharmacy in Maryland.

The Industrial Relations Committee presented a Seminar on Employment Alternatives in Government and Industry for Pharmacy students and interested members on February 22nd. Prominent speakers from pharmaceutical advertising, manufacturing, marketing, sales and government outlined opportunities.

Held at the Health Sciences Library Auditorium, the Seminar attracted pharmacy students from several regional schools of pharmacy and was presented through the cooperation of the SAPhA Chapter and the University of Maryland School of Pharmacy.

IR Committee Presents Employment Seminar

MSHP Meets at Good Samaritan Hospital

The Maryland Society of Hospital Pharmacists met February 8th and heard a program presentation by Bonnie Levin Pharm.D. on Kinetics. Bonnie is also a member of the M.Ph.A. Board of Trustees.

Pictures courtesy of Paramount Photo

Held at Good Samaritan Hospital, a large number of pharmacists turned out for the program and dinner hosted by the Hospital.

LETTERS

March 13, 1979

David A. Banta, Editor
The Maryland Pharmacist
650 W. Lombard Street
Baltimore, Maryland 21201

Dear Dave:

I would like to report a case that may have been preventable by the proposed third (or "under the counter") class of drugs, i.e. dispensed only by the pharmacist with appropriate patient education.

The three year old son of a head nurse at The Good Samaritan had been recently diagnosed as iron-deficient. The pediatrician recommended Fer-In-Sol®, 5cc TID. At her community pharmacy, she bought the only available Fer-In-Sol product on the shelf, and for 2 days dosed the child as prescribed. Since the bottle contained only 50cc, she called our pharmacy to see if a larger size was available. On questioning, our staff realized that the 15cc per day dose was prescribed for the syrup (18mg elemental iron per 5cc), not the drops (15mg per 0.6cc), and the child had received more than ten times the recommended dose. The only dosing information on the label was 0.6ml QD or as directed by the physician.

The Maryland Poison Information Center (MPIC) was called, and the child was immediately brought in for evaluation. Fortunately he had only mild diarrhea and his serum iron level was within normal limits. Many others are not so lucky — iron toxicity can range from bloody diarrhea to massive GI bleeding and death.

This incident may have been prevented by a pharmacist who kept all potentially toxic O.T.C. products *under* the counter, and when dispensed, discussed the recommended dosage with the patient. I have seen several cases where lack of information and misinformation about pediatric agents led to overdose and toxicity. More stringent dispensing habits (mandated or voluntary), patient education and improved labelling will help recurrences of this potentially life-threatening incident.

Sincerely,

Bonnie Levin, PharmD.

Bonnie Levin, Pharm. D.
Clinical Pharmacist
The Good Samaritan Hospital

February 28, 1979

David A. Banta
Executive Director
Maryland Pharmaceutical Association
650 West Lombard Street
Baltimore, MD 21201

Dear Dave:

The January issue of the *Maryland Pharmacist* is great! My congratulations to you and your staff in your efforts to continually produce a journal for your membership that is informative, educational and easy to read.

Your editorial in the same issue on Apathy is quite a propos. Apathy will prevail — not only in our profession — but in any whose members choose to "let the other guy do it"; and if it so prevails, then the profession will suffer — as we are beginning to — the early stages of a lethal syndrome. I suggest to you and to all my colleagues that new research be initiated to find the cure before we lose total control over our future.

Dave, I've sent the editorial to each of our Officers and Board of Directors and also would like to reproduce it — giving credit of course to Mr. Stanley J. Yaffe, MPhA President, in a future newsletter or journal.

Sincerely,

Jim

James H. Stewart
Executive Secretary
Massachusetts Pharm. Assn.

TO: State Pharmacy Associations

In some areas of the country Premo Pharmaceutical Laboratories, Inc. of Hackensack, New Jersey has been marketing its brand of chlorpropamide tablets under the trade name Insulase™. Premo does not have an FDA-approved New Drug Application for Insulase. As you know, Pfizer filed suit against the FDA seeking an order to require FDA to use its regulatory tools against the marketing by Premo of its brand of chlorpropamide.

In addition, as you may know, in a Federal Register notice published December 1, 1978 the FDA confirmed that an approved new drug application was necessary for the marketing of chlorpropamide and that marketing of this product prior to FDA approval would "subject such products, and those persons who caused the products to be marketed, to regulatory action." Pfizer's brand of chlorpropamide, sold under the name "Diabinese®" is the only product approved by the FDA.

We have been advised by the FDA that procedures for seizures of Premo's chlorpropramide in various locations have been initiated by FDA on the grounds that it does not have FDA approval for marketing of its brand of chlorpropamide.

Very truly yours,

Daniel J. Coakley

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A significant article on pharmacy law stated that "it is not unlikely that pharmacists substituting therapeutically or bioequivalent drugs for those prescribed will face increasing confrontation in the courts on the issue of their liability for unanticipated or adverse reactions from drugs dispensed by them."*

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*From a special report reprinted from U.S. Pharmacist 2(4):18-23, 1977. "Pharmacy Law" by Michael R. Sonnenreich, J.D.

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THE
MARYLAND
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Official Journal of
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MAY, 1979
VOL. 55
NO. 5

Home Care of the Terminally Ill

–Phillip Weiner, R.Ph.

Home Respiratory Care

–Marvin L. Oed, R.Ph.

NACDS on Patient Information

–Dagmar Torres

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SHARON SPIES, *Assistant Editor*
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President's Message

A New Approach in Continuing Education

Something revolutionary is happening in the area of continuing education for pharmacists in Maryland. The University of Maryland School of Pharmacy will be decreasing its role as a provider of C.E. As a result, the "Continuing Education Coordinating Committee" has been formed. It is made up of representatives from the School, the Maryland Society of Hospital Pharmacists and the MPhA.

In addition to the natural benefits derived whenever pharmacy organizations cooperate with one another in this fashion, I see a very important opportunity for practicing pharmacists to provide direct input into the formation of future C.E. programs to be provided by the Coordinating Committee. The Committee intends to act as a resource, coordinator and provider of interesting and relevant C.E. programs.

I believe that this is an important event. The Committee will begin its work by publishing a directory of available C.E. programs for pharmacists. At last, we will begin to see coordination in information of all the programs available from the various C.E. providers. The formation of this Committee is especially important since it is quite likely that we will have a mandatory continuing education bill again introduced in next year's legislative session.

Pharmacists who are interested in continuing education should contact the MPhA office now to take advantage of the opportunity to make suggestions or comments.

Home Care of the Terminally Ill

by

Phillip Paul Weiner, R.Ph.

Presented at the 1979 Swain Seminar

Picture Courtesy
Paramount Photo
Service

My talk this morning is about caring for the terminally ill cancer patients in their home. Two words are important in this discussion: *is* and *if* . . . Is, in the informal, means the present condition and If . . . when used as a noun, is a supposition. What I hope to accomplish is to talk about what made me think about this problem, what I am doing now and what IF it all works out.

Unlike my colleagues who will speak later, my program is "in utero". Not only am I not in the field, I am unfortunately, a good year away. Lack of time and lack of knowledge prevent a reasonable success assurance at this time.

Sometime in early 1977, I received a telephone call, and thus the scenario began. Phill this is Charlie. We are bringing Mickey home in a few days, she has cancer. Naturally, as a community pharmacist who cares greatly for his patients, I immediately offered whatever assistance I could in order to make her stay at home as comfortable as possible. A wheelchair, and an alternating pressure pad were the only medical equipment items needed. Pain medication started with Demerol and soon progressed to Percodan and then to the injectables. On one Saturday afternoon about 2 p.m., after my driver had already left for the day, I received a frantic telephone call from the husband that he would not have enough Pantopon to last the weekend and that Mickey was feeling poorly. Because the physician and I had anticipated this, I had been sent several advance dated prescriptions for just such an emergency. I told Charlie that I would stop by after I closed the pharmacy at 3 p.m. and deliver the medication personally. Upon my arrival at their home, I was asked in to say hello to Mickey. I remember her as a fiftyish moderately sized woman whose vivacious personality and manners made her a very pleasant person to know. What I saw that afternoon, was a sight that those of you who have seen before will be able to empathize with me about, and those of you who have not could not possibly understand with words. This beautiful woman now weighed eighty pounds or less. What little hair she had on her head was snow white. She sat, or more correctly she lay in a sitting position on a sofa over a couple of pillows because she could not lie any longer in bed or in any other place or position. And yet, if I closed my eyes and just spoke to her, she was as I remembered her before and as I remember her now, alive and vivacious. Mickey died two weeks later. On my way home from visiting with her I vowed to myself, something more *must* be done for those people who want to die at home amongst friends and family instead of the cold and impersonal confines of a hospital or nursing home.

When something bothers me, I often sit at my desk at home and write. These writings formulated into what I call "Project Alpha". I have spoken to members of academia, oncologists, nurses, colleagues, and laypersons. It seems that everyone has applauded this idea in principle. But principles do not pay bills. I must publicly thank the three people in our field who have been responsible for my progress to this point. Dr. Arthur Serpick, a Baltimore metropolitan area oncologist who besides being a personal friend has been involved in cancer research and independent practice for almost 20 years. Dr. Ralph Shangraw of the University of Maryland School of Pharmacy for his interest in my project and for putting me in contact with Mr. Clarence Fortner, Chief of Pharmacy Research, Baltimore Cancer Research Center, which is part of the National Cancer Institute of the National Institutes of Health.

As an initial part of my retraining, I am spending one day a week at BCRC observing the life and death of patients in the 35-bed cancer research unit. It has been extremely helpful listening to the problems encountered in treating these patients from all aspects of care . . . medical, physical, psychological, nursing, and pharmacy. I have had the opportunity to go on rounds with the staff physicians, watch certain surgical procedures, attend staff seminars. The clinical research pharmacists at BCRC are a credit to their profession. They are knowledgeable beyond belief. The innumerable protocols, the antineoplastic drugs, antibiotic and antifungal drugs. Some of these drugs are so newly experimental that there are only numbers and letters instead of names. These drugs are known inside out by these pharmacists.

I have been able to work in the three different areas of the clinical pharmacy. The outpatient area dispenses drugs to those patients who have either been released from the hospital or whose disease state has not yet reached a stage necessary for hospitalization. The unit dose area dispenses medication to the inpatients on a twice a day regimen. What medications are not prepackaged, are done so inhouse either by BCRC or University Hospital. The third area is the IV additive area. Being a community pharmacist, this area has been of particular interest to me for several reasons. First, because this could be very useful in my project, secondly, because it was a new experience in pharmacy practice, and thirdly because an area within IV additives is of even more possible importance to both my project and/or a separate area of service. That area is TPN or Total Parenteral Nutrition or as it is more commonly known, hyperalimentation.

. . . provide the best possible care in an impossible situation.

Body fluid imbalances are being recognized today as an ever increasing problem to the physician. Virtually every seriously ill patient is a candidate for one or more fluid imbalance disturbances. Even patients who are only moderately ill may not escape them. Therefore, the terminally ill is a definite candidate for TPN. I might add, that in Washington State, Blue Shield is paying fees to at least one pharmacist to prepare IV fluids for home treatment.

I was able to attend one seminar conducted by the psychiatrist attached to the BCRC. This seminar took up the case of one of the patients who was a particular problem to both the medical staff and, in particular, to the nursing staff. The patient was in her final stages of life; still lucid, she was most uncooperative. She would not eat, would not answer questions, would not take medication, and coupled with being incontinent both urethrally and rectally, the staff found it difficult to cope. Nursing morale and physician morale were low. The seminar allowed the feelings of the staff to be examined and rational answers to be entered. Naturally, the patient expired within ten days of this seminar, but the learning experience of the staff will aid them in dealing with the next patient and, unfortunately, there will be a next patient.

I am currently enrolled at the Community College of Catonsville in a 3-credit course called Death, Dying and Bereavement. The course treats the subject matter directly in order to prepare someone who treats the patient or the family with information to be able to cope with not only the patient's death, but the realization of one's own death.

Now, to my IF part: If my program works, I will be quite happy with myself. Part of this program is expectation, part hope, and part fantasy. I cannot distinguish one part from the other because what I may feel is fantasy may become in fact, fact. And conversely, what I hold as expectation, may be folly. Further, what I expect to happen, may not only not happen, but possibly, could not.

My greatest accomplishment level in this program would occur as follows:

The independent pharmacist who would be a community practitioner specializing in oncology pharmacy. This person would be able to treat, under the auspices of an oncologist, a patient who the physician has diagnosed as having cancer and whose prognosis in his expert opinion is very poor. I feel the time parameters would be one to eight weeks. Although we all know no one knows how long any given patient can live, a time frame must be established. The scenario would then proceed as follows: the patient has either undergone an open and close operation or after a period of treatment, the prognosis is poor. Their problems may have started with a lump in the breast, rectal bleeding, lethargy, diarrhea, or any of many other symptoms, followed by diagnosis of solid tumors and the open and shut cases. In the case of leukemia, patients blood or bone marrow tests, certain surgeries and other tests can confirm lymphocytic or myleocytic disease. Once a person has been diagnosed as having a cancer, the physician must inform the patient. When a patient learns of such a disease as this, and I add that I am talking about terminal disease, he usually goes through a series of five stages to acceptance of his impending demise. According to Elizabeth Kubler-Ross, they are *Denial* or it can't be me to *Anger* or why me, why did I deserve this, why not someone else, *Bargaining* — Dear g-d if you will allow me to live . . . I will . . . which leads to *Depression* or leave me alone. And finally to the *Acceptance* where he says OK, I've got cancer and now I am going to fight it, I am going to live my life differently and I am going to get my life in order. This progression can occur quickly as in the case of the Honorable Hubert H. Humphrey or it can stop at the Denial stage or anywhere in between.

The pharmacist would visit the patient 2-3 times a week . . .

In this situation, my patient to be, will have accepted their lot and will have made the decision not to die in a hospital or nursing home. Instead, they will want to go home. Another instance of this decision to die at home may come from the loved one . . . a husband or wife, a parent or child, someone who wants to be near their family in this time of crisis. Most of us who are in community pharmacy have tried to care for patients who have come home to die. We have supplied pain medications and medical and incontinent supplies to these people. If you are like me, you have been as frustrated as I have in dealing with their needs as I explained earlier.

Once this decision has been made and the physician advised, he will suggest to the family or the patient that he contact me in order to have continuity of treatment and to ease the burden from the suffering and from the physician who has said in his own mind that this patient will not survive this disease for long. Again, I want to stress one important point. When I say physician or doctor, I am talking only about oncologists. I do not feel that internal medicine or general practice physicians can psychologically allow themselves the possibility of calling in someone like me to care for their patients. On the other hand, the oncologist,

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the specialist in this field, once he has decided he can no longer help a patient achieve a remission or a cure for his condition, can have enough confidence in his decision and myself as a pharmacist to give his patients the best care possible. Remember, also, that I will be acting in consult with the physician, not on my own. All treatments will be given under the authority of the physician, but you or me, the oncology-pharmacist, will know his patient as well as or even better than the doctor. It is not my intent to act as a physician, but rather as a provider of the best care possible in an impossible situation. It is my hope that the oncologist will be able to hopefully diagnose and successfully treat new patients while I comfort and aid those patients who are in their life threatening situations. Which by the way is now the preferred way of expressing a terminal illness — remember it — life threatening, it does not sound as ominous, it is more accurate, and it sounds a little unsure. That is also true, we are never sure.

When I am called by the practitioner, I will go to the hospital to speak to the patient and/or the patient's family about my services. This visit also affords a face to face encounter with the patient. At this time, I will obtain as much information on the patient as I can. A drug history if you will, obtained from the hospital records and the patient, if able. This is to set up a patient profile. Lest we forget that if the patient has, for example, a heart condition, medication for that condition must be continued for at least two reasons. The first is medically, the second is psychologically. If the patient is given no medication other than what is needed for his terminal illness, he will have no hope of survival even if there is no hope. Why not give him a little hope? Another reason is that with some medications the dosage regimen must be altered as the patient's condition changes.

Once the hospital visit has been completed, and the patient is going to go home, it is my intention to transform a room in the home to simulate a hospital room. A hospital bed, an over the bed table, side rails, an alternating pressure pad, commode, walker and/or wheelchair, bed pan, and bedside sets will be standard issue with oxygen and/or an intermittent positive pressure breathing machine for those patients with respiratory problems.

I have heard of a number of cases where chemotherapy has been started and the prognosis is dim before either the last course has been given or where the oncologist would still like to continue chemo although hope appears very dim. If I would be able to give the chemotherapy, considerable savings would occur. It is much less costly for one person to go to the home and administer therapy than it would be to have an ambulance pick up the patient, transport him to a hospital, wait while the chemotherapy is given, and then transport the patient back to the home. Another part of the injection area is that of taking blood. You would be amazed what some of the blood tests available can tell. Such tests as creatineine clearance, B.U.N., Uric Acid levels can tell much as to the condition of the patient.

Naturally, pain medications are extremely important because in virtually all of the cases, pain is the one problem the patient has. As the disease state increases, the pain usually becomes more intense. Once an advanced state is reached, the narcotic injectables along with pain relief enhancers may be given, but the dose given must be monitored and altered to each patient. Today, we have "Bromptoms Mixture", a combination of Morphine and Cocaine amongst others. So far, it has not been as successful in my practice as it has been touted to be, but I have some ideas on how to improve the formula.

Educating the family is an important part of this project. Since one of the objects is to reduce total costs of the illness, it is important that the family be able to perform many tasks for the patient. Administration of injectable medications is probably the easiest to give, once the squeamishness has been overcome. Having taught this before, I know first hand the gratification and satisfaction on the families' faces.

I want to take just a moment here to give another reason for patients going home. If a patient is allowed to terminate his life in the familiar and beloved environment, it requires less adjustment for him. His own family knows him well enough to replace a sedative with a glass of his favorite wine; or the smell of a home-cooked soup may give him the appetite to sip a few spoons of fluid which is probably more than he would do with institutional food and it is certainly better than an IV drip. It also allows the patient to see more loved ones, especially young children. It also affords those children an insight into dying, an insight we tend to feel negative about, but which is probably better for the child.

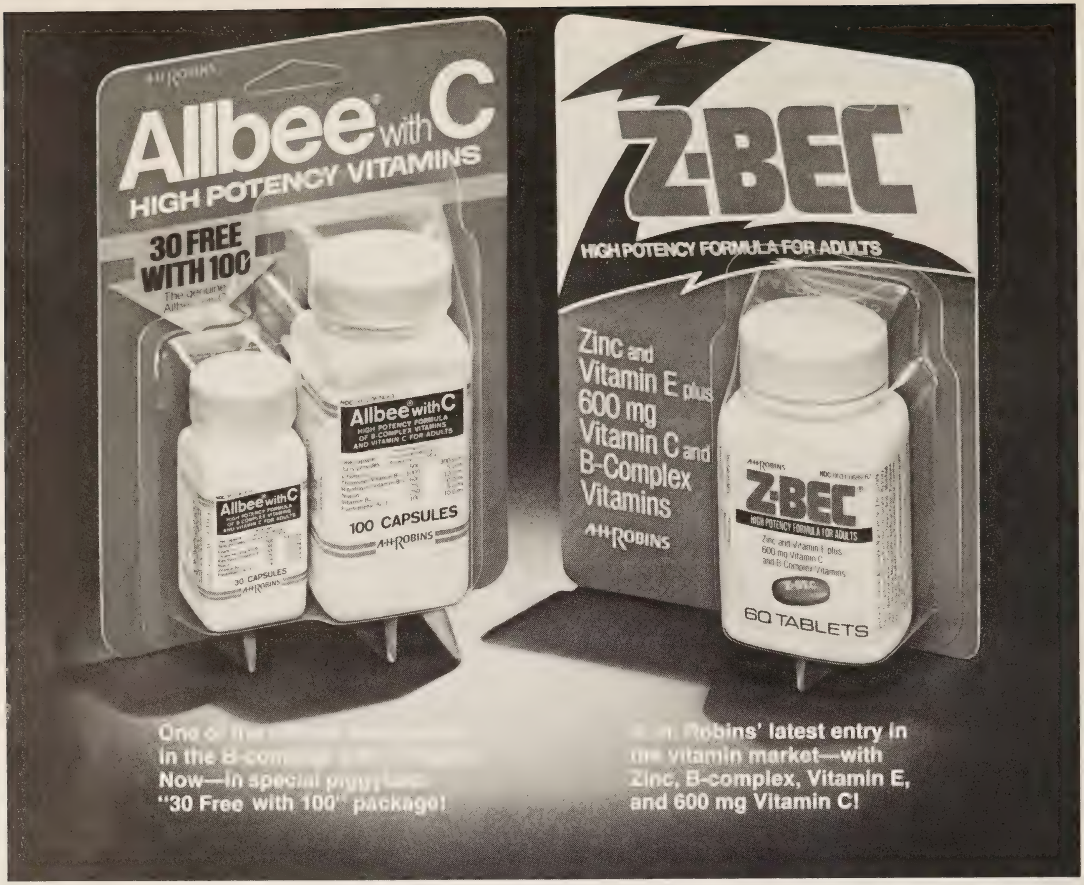
Liability is an unknown.

The pharmacist practitioner would visit the patient 2-3 times a week until and unless needed more frequently. When the patient expires, the equipment will be removed and the room returned to its original state as quickly as possible and as inconspicuously as possible.

This is in essence what the project is about. I stated before, that this could be a case of Pharmacist playing doctor. If you want to believe this, OK, but I prefer to see it as utilizing the knowledge of a pharmacist in more than a count and pour situation. By having Pharmacists in this program, it would allow a number of independently minded people the opportunity to be their own boss. I can foresee up to 20 pharmacists utilizing the services of a core pharmacy devoting approximately 1000 sq. ft. to the prescription department and another 1000 sq. ft. to the equipment end. The pharmacy could be open to the community, but that would be an individual or group decision. In this group, the hierarchy would be as in any group; with benefits and advancement possible.

Because of the retraining I am trying to achieve, and because I am not sure I will be able to retrain fully, I feel that if the program is to be implemented, some changes in the curricula at Pharmacy School might be in order. I would like to see an additional year of intensive study including, IV additive and TPN, nursing techniques applicable, antieoplastic pharmacology, psychology of death and clinical experience. I would further like to see this as either a masters or a Pharm.D. program.

Everything has not been roses. I have been frustrated in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a number of ways. I have submitted applications for grant funds to the Robert Wood Johnson Foundation, founded by the originator of the J & J Company. The Robert Wood Johnson Foundation spends millions of dollars on grants, but cannot underwrite "retail" projects. Through the University of Maryland School of Pharmacy, the Kellough Foundation is available, but so far dollars are not forthcoming. I have submitted a prospectus to the National Center for Health Services Research but it is much too early to even think about. I have been overtly thwarted in at least one area. I have shown that I feel being able to take blood and to start and give IV's are important parts of the program along with other nursing skills. At this point in time, I have not been able to obtain that training because of misunderstanding of nursing personnel.

I have saved the last two areas for last because of the unknowns surrounding them. Liability is an unknown. Remembering that I am working under the auspices of a physician, is he liable or am I? But I am treating terminally ill patients with life expectancies of up to 8 weeks. What would I be liable for if they died in 3 weeks? I think this question can only be answered after all else is ready for the program.

The biggest question is how am I going to be paid? According to information I received a while ago, the government — i.e., Medicare — will pay when either the patient care is superior over what is available now or if the cost is lowered. I naturally think the patient care under my program will be superior to what is available at this time. The cost factors should make the government people and all third party carriers very happy. Against a per diem care in the hospital in excess of $200.00, is my calculations of a weekly cost of $200.00.

Thank you for listening. I hope you have enjoyed my talk as much as I have enjoyed doing and preparing this program.

calendar

May 30 — U. of Md. Pharmacy Alumni Annual Graduation Banquet
May 31 — School of Pharmacy Convocation
June 20 — Balto. Veteran Druggists, Annual Crabfeast, Rodowskas's shore
June 22-24 — MSHP Seminar — Hershey, Pa.
June 24-28 — MPhA CONVENTION — TAMIMENT, Pennsylvania
July 30/Aug. 14 — MPhA TRIP TO AUSTRIA, GERMANY & SWITZERLAND. CALL OFFICE FOR LAST MINUTE RESERVATIONS.
Sept. 11 — Alumni Assn C.E. Program — Ethics in Pharmacy
Oct. 15-18 — NARD Convention — Las Vegas, Nevada
Nov. 4 — Alumni Association Oyster Roast, Overlea Hall

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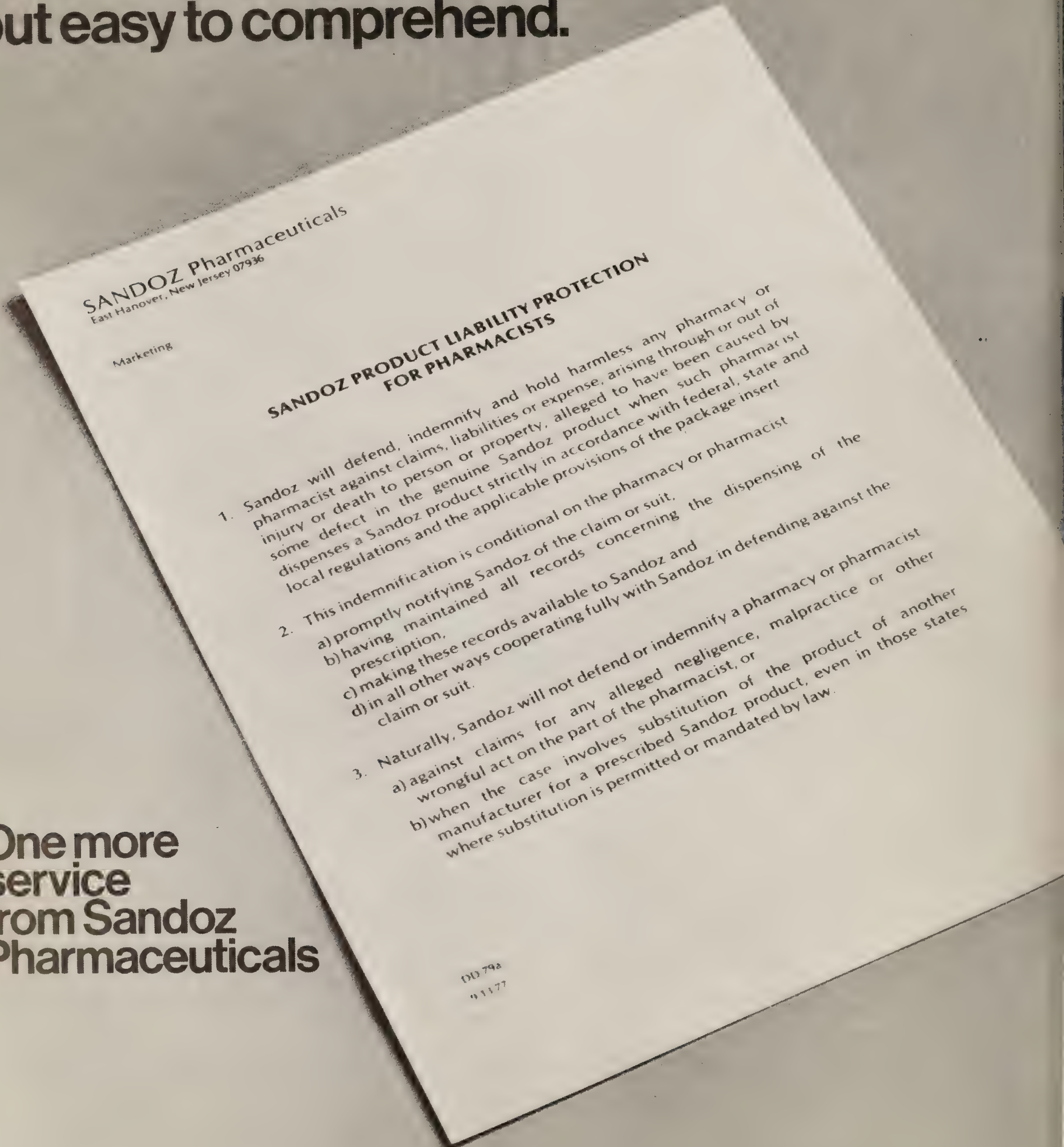

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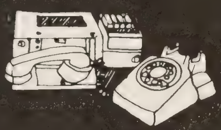

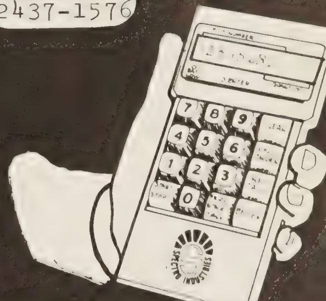

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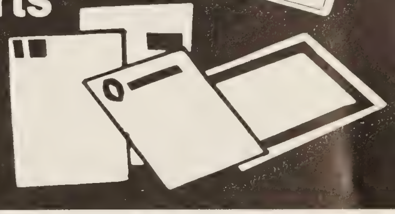

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Lilly Digest Shows Expenses Reach All-Time High

The 1979 preliminary *Lilly Digest* report, based on 1978 operating statistics from 851 community pharmacies, indicates that total sales, cost of goods sold, and miscellaneous operating expenses reached an all-time high that resulted in the lowest gross margin and net profit recorded during the past ten years. The data strongly suggest that pharmacy managers must put forth more effort to hold the line on operating costs. When the income and expense statement items are expressed as percentages of total sales and compared with *Lilly Digest* figures for 1977, they show that . . .

Total sales attained a new high of $355,691 — $32,936 (10.2 percent) over 1977 sales. This rate of increase is higher than the average growth rate of 6.2 percent observed during the past ten years. Prescription sales again surpassed other sales by posting an 11.7 percent gain, in contrast to an 8.7 percent increase in other sales. For the second consecutive year, total prescription revenue accounted for over half of the community pharmacy volume at 51.1 percent (up from 50.4 percent in 1977). This again reminds us of the strong impact the prescription department exerts on the financial picture of the average community pharmacy.

A higher cost of goods sold forced the gross margin down once more, for a ten-year low of 34.6 percent of sales (down from 34.9 percent in 1977). Total expenses decreased slightly, but not enough to prevent net profit before taxes from dropping to 3.2 percent of sales, a new all-time low.

Total operating expenses rose by $10,006 (9.8 percent) but, as a percent of sales, fell from 31.5 percent in 1977 to 31.4 percent. Employees' wages increased in dollars but fell to 11.6 percent of sales, down 0.2 percent from the 1977 figure. The average proprietor's salary also was higher in dollars (by $1,368) but lower as a percent·of sales (6.7 percent — down from 7 percent). Although net profit declined as a percent of sales, it was $316 higher (up 2.9 percent over 1977's figure). This allowed total income (net profit plus proprietor's salary, before taxes) to increase in dollars but to drop dramatically as a percent of sales, from 10.4 percent to 9.9 percent in 1978.

Although prescription inventory required $2,295 more dollars than in 1977, at 12 percent, it remained the same as a percent of sales. This caused the prescription department's sales productivity to decline slightly to $8.34 per stock dollar (down 1 per cent). Other merchandise productivity also decreased from $4.72 to $4.65 per dollar invested in inventory.

The shares of new and renewed prescriptions remained the same for the reporting period, although both increased in volume (627 and 676 respectively). This resulted in total prescriptions reaching a new 20-year high of 27,952 (up 1,303, or 4.9 percent over 1977's figure). Since this reverses a two-year trend, it will be interesting to see whether the final 1978 statistics will support this change.

The average prescription charge rose 40 cents (6.6 percent) during 1978, to $6.50.

The following table summarizes the preliminary *Lilly Digest* report of the 1978 operating figures of 851 community pharmacies and compares them with the 1977 *Lilly Digest* averages from 1,712 pharmacies. The annual *Lilly Digest* will be completed and distributed in September, 1979.

LILLY DIGEST PRELIMINARY REPORT--1979

Averages per Pharmacy	1978 (851 Pharmacies)	1977 (1,712 Pharmacies)	Amount and Percent of Change
Sales			
Prescription	$ 181,635-- 51.1%	$ 162,631-- 50.4%	+$ 19,004--11.7%
Other	174,056-- 48.9%	160,124-- 49.6%	+$ 13,932-- 8.7%
Total	$ 355,691--100.0%	$ 322,755--100.0%	+$ 32,936--10.2%
Cost of goods sold	232,568-- 65.4%	209,954-- 65.1%	+$ 22,614--10.8%
Gross margin	$ 123,123-- 34.6%	$ 112,801-- 34.9%	+$ 10,322-- 9.2%
Expenses			
Proprietor's or manager's salary	$ 23,990-- 6.7%	$ 22,622-- 7.0%	+$ 1,368-- 6.1%
Employees' wages	41,363-- 11.6%	38,063-- 11.8%	+$ 3,300-- 8.7%
Rent	8,755-- 2.5%	8,080-- 2.5%	+$ 675-- 8.4%
Miscellaneous operating costs	37,676-- 10.6%	33,013-- 10.2%	+$ 4,663--14.1%
Total expenses	$ 111,784-- 31.4%	$ 101,778-- 31.5%	+$ 10,006-- 9.8%
Net profit (before taxes)	$ 11,339-- 3.2%	$ 11,023-- 3.4%	+$ 316-- 2.9%
Total income (net profit plus proprietor's salary, before taxes	$ 35,329-- 9.9%	$ 33,645-- 10.4%	+$ 1,684-- 5.0%
Value of inventory at cost and as a percent of sales			
Prescription	$ 21,766-- 12.0%	$ 19,471-- 12.0%	+$ 2,295--11.8%
Other	37,440-- 21.5%	33,911-- 21.2%	+$ 3,529--10.4%
Total	$ 59,206-- 16.6%	$ 53,382-- 16.5%	+$ 5,824--10.9%
Annual rate of turnover of inventory	4.0 times	4.0 times	No change
Number of prescriptions dispensed			
New	13,558-- 48.5%	12,931-- 48.5%	+ 627-- 4.8%
Renewed	14,394-- 51.5%	13,718-- 51.5%	+ 676-- 4.9%
Total	27,952--100.0%	26,649--100.0%	+ 1,303-- 4.9%
Average prescription charge	$6.50	$6.10	+$ 0.40-- 6.6%

A Project to Help Optimize the Results of Drug Therapy in the Elderly

by

Ruth Sammel Blatt

Pharmacy Student

Ruth worked as a special studies extern in the Association office — and completed this article as part of that experience.

ABSTRACT

A Task Force on Aging has been set up by the University of Maryland Professional Schools to examine problems of the elderly and to help resolve some of these problems. The purpose of the Aging Project developed by the Pharmacy Task Force was twofold: to enhance awareness among students of the needs and capacities of the elderly and to present up-to-date information regarding drug usage to elderly citizens. Four students, in conjunction with faculty of the School of Pharmacy developed speeches to be delivered at senior centers. The students contacted the Baltimore Veteran Druggists (BVD's), a group of retired pharmacists, and asked them to participate in the project. Teams of students and veterans developed presentations, which were jointly delivered at the Waxter Center, a senior center in Baltimore City.

GOALS

The goals of the program were to increase knowledge among the elderly of drug usage and misusage and to sensitize the pharmacy students to the needs of the elderly.

MOTIVATIONS

The motivations for the program were many. The size of the aged population is increasing in our society, but the formal pharmacy education includes little information regarding needs and specific behaviors of the elderly. This program was designed to increase pharmacy students' knowledge, attitudes, and skills in working with the elderly. The elderly are major drug users and have been found to lack knowledge and understanding of how they can optimize their own drug therapy including drug usage, interactions and side-effects. We also wanted to increase consumer awareness regarding pharmacist selection, self-advocacy and knowledge of over-the-counter and generic drugs. Another motivation for the project included involving retired pharmacists in peer education and interaction with students. Retired pharmacists could become models for students, while utilizing wisdom gained through years of experience.

The pharmacist is the health care professional most frequently seen by the elderly. In order for their therapy to be effective, the aged must understand their medication regimen. The pharmacist has the necessary knowledge to educate the elderly. However, the pharmacy student often has not developed the communication skills and sensitivity to this age group which are necessary to effectively accomplish consumer education.

In conjunction with faculty, the students selected four topics felt to be important in optimizing results of drug therapy in the elderly. The program consisted of a presentation of one topic per day, followed by a question and answer session, for four consecutive Fridays.

DAY ONE —
A Trip Through the Body

The basic anatomy of the human body was outlined. The major organs were pointed out and their functions were explained. Sites of action of some drugs were illustrated. This knowledge was then used to describe various systems of the body — digestive, respiratory, skeletal, central nervous, excretory and cardiovascular. Included in the discussion of the functioning of these systems, the effect of aging on these systems was described. The primary point explained was that increased age tends to slow down these systems and often causes them to work less efficiently. It is felt that knowledge of this fact will increase comprehension in the elderly that their body function has been altered and they may need different care than they are accustomed to. Hopefully, the understanding of their body function will increase the elderly's participation in their own drug therapy.

DAY TWO —
Over-the-Counter Drugs

An over-the-counter (OTC) drug was defined as being a drug that can be purchased without a prescription from

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a physician. It was emphasized that even though a physician's order is not required, an OTC drug is indeed a drug and all the precautions that are necessary in taking a prescription drug should be followed for this class of drugs, as well. Since aspirin is present in a wide variety of OTC drugs, it was used as an example. First, the three actions of aspirin were explained — analgesic, antipyretic, and anti-inflammatory. Then examples were given of products that contain aspirin — Empirin compound®, Anacin®, Excedrin®, and Sine-off®. The differences in the advertised claims of these products were pointed out: some are to be used for pain, some for allergy and some for inflammation. The labelled claims vary widely for these products and yet they all contain the same drug. The importance of reading labels and ingredients was emphasized. At this point, the role of the pharmacist in aiding product selection was brought out. The elderly participants were advised to consult their pharmacist for help in deciding which OTC product will best suit their needs. They were instructed to tell their pharmacist about any other medications they were taking and about any diseases or conditions they may have.

DAY THREE — Generic Drugs

The term generic was defined as the name of a drug entity without a specific manufacturer's label. For example, acetylsalicylic acid is the chemical name, aspirin is the generic name and Bayer® is the brand name. Bayer®, Norwich® and Joe Doe's aspirin all contain the same drug. As long as each product meets government standards, the same effect should be obtainable from any of these products. Therefore, the participants were urged to ask their pharmacist if the generic equivalent is available for their medication. The point was made that not all drugs are available generically and their pharmacist can supply this information for them. The importance of generic drugs to the elderly is mainly economic. Since generic drugs are often less expensive than the brand name product, elderly patients will be better able to afford their medications. In essence, this makes many drugs more accessible to elderly patients and may, therefore, increase compliance. Since substitution is legal in the state of Maryland, it is important that patients know their rights in this matter.

DAY FOUR — Misuse of Drugs

Misuse of drugs was defined as the improper use of medications being taken for therapeutic reasons. It is important for our participants to understand what the directions for their medications are. For example, what does "three times a day" mean? Should the drug be taken before meals or after? Are there any foods that should not be eaten with this drug? How long is the course of therapy? To obtain answers to these questions, the elderly participants are instructed to ask their pharmacist. We were trying to make them aware of the type of information they need to know in order to properly take their drugs.

Three classes of drugs which are subject to misuse in the elderly were discussed — sedatives, antihypertensives and laxatives. For sedatives, the term "as needed" (prn) was discussed. It is important that the elderly do not feel that they must take a sedative every night. For antihypertensives, we explained the importance of taking their medication every day for as long as the doctor prescribes. For laxatives, regularity was discussed. Many elderly patients feel that to be regular means to evacuate at least once a day. This is a misconception because regularity is different for everyone. Also, more natural means of laxation were discussed.

The main point stressed was that if the participants had any questions about how their medication should be taken, they should ask their pharmacist.

CONCLUSIONS

The prospects for continuation of this program are good for a variety of reasons. The program was positively evaluated by the elderly participants, student speakers, and veteran pharmacists. All wanted to continue the program. Baltimore has a very large geriatric population that is always increasing. At least 35% of the population in Baltimore City is over 65 years of age. There are fourteen multi-purpose senior centers in Baltimore City under the auspices of the area agency for aging. This administrative body has indicated a desire to offer this program at all of these centers.

This project was evaluated as accomplishing goals of consumer education and students education regarding needs of the elderly. Both participants and audience requested continuation of this project. Plans are underway to expand the "speakers bureau". Senior centers throughout Baltimore have requested this program.

This project recently tied for first place in a national competition sponsored by the American Association of Colleges of Pharmacy on the topic "Optimizing the Results of Drug Therapy." The award will be accepted by Ruth at the AACP Annual Convention in Denver, Colorado in July.

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Home Respiratory Care

by

Marvin L. Oed, R.Ph.

delivered at the 1979 Swain Seminar

It is impossible for me or anyone else to give you all the information you need to know about Home Respiratory Care in the allotted half hour, or even in one day for that matter.

What I can do, is give you a basic understanding of Home Respiratory Care — what it is, and what it is not! And perhaps answer some of the questions in your mind.

To take the last first:

It is not a get rich quick scheme — it requires time, effort and hard work.

It is not something you can dabble in. Many of us entered the medical equipment business 10 or so years ago by buying a walker, a wheelchair and a commode — and we thought we were medical equipment dealers. This may have worked then for medical equipment, but it won't work for respiratory care.

Home Respiratory Care is a very sophisticated, specialized field of medical equipment. It requires a greater depth of knowledge of disease, of the equipment used and of individual patient needs. It is a very time consuming business. You must be prepared to spend a great deal of time with patients, their families, physicians, nurses, social workers and the insurance companies that are often paying the bills.

This is not an area to be recommended to every pharmacist, or even to every pharmacist now doing medical equipment. I do recommend it to those willing to make a substantial commitment. To be successful, a commitment to a Home Respiratory Care Program in general and specifically — Commitment in Time, Education, Money and Effort.

To those willing to make the total commitment you will find it is highly rewarding professionally. THE TOTAL COMMITMENT IS NECESSARY BECAUSE YOU CANNOT DO THIS — HALF-WAY!

Once you make the total commitment, look at the specific area I spoke about. This may convince you to change your mind altogether.

TIME AND EFFORT GO TOGETHER

First is your Education: You need an understanding of the diseases you are dealing with, the equipment used, the medications involved — and how all of this is going to affect the progress of the disease.

Much of your time initially will be taken up with the education I just mentioned. Unfortunately there is no single source for all this information, so you have to seek it out the best you can. You must locate new suppliers; normal sources are not going to be able to supply all your needs.

Since this is an entirely new field, time will have to be spent on promotion, making people aware of your new capability.

And because of the nature of the business:

1. Sophisticated equipment.
2. Generally older, perhaps senile patients.
3. Usually very ill with progression diseases; much time is spent in talking with patient, family and physician and social workers and so on.

MONEY

Money is probably the most necessary and most difficult commitment of all to make. Substantial cash is needed for the initial inventory — you can't sell from an empty wagon. Even more cash is needed for replacement inventory — since this is primarily a rental business.

Because it is a rental business it takes some time for your cash flow to catch up.

If you bill insurance companies, Medicaid or Medicare, that will slow the "turn-around time" on your money.

Delivery costs are higher. You will have to purchase a truck or at the very best adapt the one you already own.

Station wagons and vans do not work well for the delivery of oxygen tanks. O_2 tanks will not stand up and they are very difficult to secure lying down. We found a step van to be the answer. By installing two tracks along each side that will accept belt clips we can strap the tanks upright to the side of the van. There were added benefits also — the delivery people like the step van because they can stand up in it and makes it much more comfortable for them to work out of. Also the straps serve to hold other equipment such as beds and wheelchairs in place also.

Delivery is often going to require two people, especially oxygen concentrators and large tanks of O_2. On occasion we have used one person to deliver large tanks — but I don't recommend it. They are heavy and they are unwieldy, even on a hand truck. If a tank slips at the top of the stairway, there is no way one person is going to stop it.

Delivery people require more knowledge than would normally be expected, and have to have some empathy for dealing with patients who are very ill, and with their families. Whoever delivers the equipment must know enough about how it functions to be able to instruct the patient and family. Even if you use a respiratory therapist — which we do, and which I recommend, this ability is still desirable. It prepares the patient for the respiratory therapist, and gives them some basic background so they can concentrate on what the therapist is trying to accomplish. While it may not seem important to make the therapist's job easier — the repetition makes understanding more likely and avoids call backs. Every time you go back unnecessarily, it is time consuming and expensive.

You have to be prepared to make emergency deliveries — to quote Murphy's Law, "In the event something can go wrong, it will go wrong." And I can add this corollary to that, "and at the most inopportune time." Nothing ever malfunctions on a weekday morning, unless it is the last one you have and it cannot be replaced locally.

Oxygen is a must for many of these people, so regardless if it is their negligence for not ordering on time (generally the cause), or a sudden increase in usage or an equipment malfunction (which does occur occasionally), the individual *needs* the oxygen. He cannot just go out and pick it up at the corner drugstore. Therefore you need an emergency phone number where someone can be reached after hours. Remember however, this someone must:

1. Be capable of repair (or replacement of the equipment), which could mean setting up an IPP Machine.
2. Must be able to get to your O_2 and equipment.
3. Must be available to the phone.
4. Must be able to intelligently differentiate a true emergency — otherwise you are going to be paying a lot of unnecessary overtime.

The inventory you will need is divided into three general areas:

1. Oxygen — the most common — about 65% of our respiratory patients are on O_2.
2. IPP — Intermittent Positive Pressure Breathing Machine, the next most common — about 30%.
3. Finally aerosol compressors — only about 5%.

A few patients are on more than one type of therapy O_2 and IPP or O_2 and a compressor.

When necessary, though not common, O_2 can be attached to the IPP and the two used simultaneously.

Let's take a look at oxygen first since it is the most common and offers the most alternatives in equipment.

Oxygen for home use is divided into several broad areas.

Portable — These are the small units that patients can use while away from their stationary source of oxygen at home; usually they are carried in a shoulder bag while being used. I am not including as portable units the Lif-O-Gen, Mada or Safety Labs emergency units; they are unacceptable for home respirator care for several reasons:

1. They contain an insufficient supply of O_2.
2. They have a preset regulator (usually 6LPM), which could be dangerous to a COPD patient. The drive to breathe normally is a high CO_2 level. However COPD patients have learned to live with high CO_2. Their drive to breathe is low O_2. Use high O_2 flow rates and you may destroy their drive to breathe.
3. Inconvenient — must change spheres frequently and they are often inconvenient to carry while in use.
4. Because of size and preset regulator these units are not compensable by Medicare.

These were basically intended to be emergency units and are fine for that purpose. Some of these companies have adapted their units by putting several spheres or cylinders in a suitcase type carrier and adding an adjustable flow regulator to make them meet the minimum Medicare requirements. We tried them and found them to be generally not too satisfactory for regular use.

1. The regulator did not hold up.
2. The cylinders would not withstand repeated refill.
3. The tanks when filled would begin leaking the oxygen over a period of time.
4. And of course there was still the problem of size.

Currently we are using a tank just a little larger than the "D" size with an adjustable flow regulator (similar to the one used on the large tanks) and a leather shoulder bag; these have been working very successfully.

Remember, these units are not intended to be the patient's sole source of oxygen; the patient has some type of stationary unit in his home.

The most common stationary unit is the large H-size tanks — about 6900 liters of oxygen. They provide ample oxygen in most cases and for the really heavy user several tanks can be connected together, in series.

There are smaller tanks, although these tanks have rather limited use, except for the "D" size, which I already mentioned, they are too large to be truly portable and too small to supply oxygen economically as a stationary source.

We have used these intermediate size tanks in emergency situations or as a backup. One person can handle the tank and get a patient through a night, perhaps until regular delivery of large tanks can be made.

It is important to supply the regular user with an oxygen humidifier. The O_2 coming from the tank is at 0% humidity. You all know what happens in the winter when you breathe dry air and your throat, mouth and nose dry out. The O_2 must be 100% humidified by the time it reaches the lower portions of the lung. If it is not humidified when leaving the tank it must pick it up (moisture) from the respiratory tract. As the respiratory tract dries out it becomes more susceptible to inflammation and infection. The last thing you want to add to a COPD patient is a lung infection.

The most convenient method of administering O_2 at home is the oxygen concentrator. It has many advantages and few drawbacks. For the user of limited quantities of oxygen the concentrator is a very uneconomical source of oxygen. For the person using oxygen for extended periods, it may very well be the most economical source. Depending on your rental rates and delivery charges the concentrator costs are about equal to that of 10 to 12 H-Tanks per month.

Advantages to you are:

1. Only one time delivery. Then bimonthly service calls. You save several trips per week and the time of two people.
2. Service calls require only one person and can be scheduled at your convenience.
3. No empties to be hauled back and refilled.

To the patient:

1. Safety: No concentrated O_2 source (which could be a hazard), since the concentrator does not store O_2.
   No chance of falling over.
   No chance of running out of oxygen.

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The oxygen concentrator is the method of choice for the administration of oxygen when either the amount of oxygen being consumed warrants it on a cost basis or the patient is willing to pay the difference for the convenience.

For those of you not familiar with an oxygen concentrator it works through a series of filters, which remove nitrogen leaving virtually 100% O_2.

We have been using them for several years now and have found them to be highly reliable. As of now we have never had one fail while in use. I know this is going to happen, so you have to be prepared with back-up oxygen, either by leaving a stand-by unit or through your emergency service.

The second most frequently used piece of equipment is the breathing machine, usually called an IPPB Machine, IPPB meaning Intermittent Positive Pressure Breathing.

An IPPB machine is not generally used as a source of oxygen. Occasionally it is prescribed with oxygen and your R.T. can set it up to deliver the required percentage of O_2. But this is the exception rather than the rule.

The breathing machine consists of compressor that vaporizes medication in a nebulizer and then ambient air along with the medication is forced, under pressure into the lungs. It is intermittent pressure because the lungs are only under pressure until they have fully inflated. Once they are fully inflated, the pressure is stopped and the patient exhales through the mouthpiece.

An IPP breather accomplishes several things that make it unique over other forms of therapy:

1. By forcing the lung to expand — it exercises it.
2. By breaking through mucous plugs at the alveoli it allows otherwise non-functional units to become functional again. If this is not done in some manner, either IPP, breathing exercises, chest physiotherapy (something), all the O_2 in the alveoli is diffused into the blood, eventually, if the CO_2 cannot get out the alveoli collapses and is then permanently non-functional and the patient loses lung capacity. This is why many chronic lung conditions are progressive — you never get this lost function back.
3. Also it allows a longer treatment time (10 to 15 minutes) as opposed to something such as an Isuprel Mistometer — which is usually limited to 1 to 2 breaths.
4. And finally because of the pressure the medication is forced deep into the lungs — it reaches all the inflatable areas of the lung (provided it is properly adjusted when set-up).

The breathing machine is probably the most sophisticated equipment you will become involved with. It is absolutely necessary that someone with extensive knowledge in the field, I recommend a R.T. who is a Home Care Specialist, be utilized.

1. The equipment must be adjusted properly.
    a. Set pressure to get maximum inflation without discomfort.
    b. Set the flow rate — how rapidly the lungs are inflated.
    c. Adjust the nebulizer so the medication lasts the entire treatment period but is not left over.
    d. Circuits must be positioned properly to prevent condensation from entering the machine.
2. In addition, the patient must be instructed how to breathe properly on the machine and how to clean after each use and the importance of sterilization. It is very easy for the patient to become lax in either of these areas with the result that you have ineffective treatment in either case and the possibility of infection in the second case.
3. These two reasons are the major causes of ineffective home IPP care and the reason you hear physicians say, "I use it in the hospital but it doesn't work at home." Well, if it works in the hospital — then properly done, it can work at home as well.
4. Which brings up the final point. To get optimal benefit for your patients it is very important that your R.T. make periodic visits. He can re-evaluate the patient and chart the progress of the disease — but most of all he should watch the patient take a treatment to see if it is being done properly. He should stress the importance of taking the treatments regularly. It's inconvenient and time-consuming, so patients have a tendency to skip treatment now and then, and unless you break the cycle they skip more and more treatments. Proper cleaning after each use is important, but again, it takes time and tends to be skipped over. It is necessary to prevent reinfection of the lung.

Regular visits by an R.T. and periodic reinforcement of the necessity of following these procedures are an important step in getting maximal benefit for your patient from IPP therapy.

Also, either at the initial set-up or the follow-up evaluations your R.T. will become aware of patients who either will not or cannot learn to breathe properly on a breathing machine.

Many of these people are older, highly excitable and not really ready to accept something new — especially if it requires some change and effort on their part. The IPP requires a special breathing technique to be effective — if the patient cannot coordinate his breathing properly the treatment may be completely worthless. Here is another reason home IPP is ineffective, but this is not the fault of IPP. It is the patient's fault. This is where your R.T. can offer an alternative therapy for you to suggest to the physician and this brings us to the final piece of equipment I am going to discuss today: the Aerosol Compressor.

The compressor vaporizes medication in a nebulizer much the same as an IPP. It has the same advantage in that treatment can be given over an extended period of time but unlike the IPP there is no pressure to force the air/medication mixture down into the lungs.

The compressor is somewhat simple to set up and can be used by patients who either do not need the pressure because they can inhale the medication sufficiently deeply into the lungs or those who for whatever reason would be better off on IPP but either cannot or will not use them properly.

The compressor is also much less expensive for the patient to use.

The keys to success in Home Respiratory Care are Education and Service.

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Your education — so you know what you are doing. Since there is no single source, you have to seek it out. For example: I have attended the MEU school, gotten some background information from Respiratory Therapy Depts. at local hospitals. Some of my background regarding oxygen came through the University of Pennsylvania Hospital. Manufacturers make a good source of information on the products they make.

Patient education (including the families and nurses, etc.) so they understand what must be done and why, in order to get beneficial results.

Service must include reasonably prompt delivery, since when you get these people the first time, most of them are coming from the hospital and need the equipment when they get home. The problem is, you and the family do not get much advance notice as to when the patient is being released.

Service also includes the emergency capability and follow-up.

Finally: Of utmost importance, is payment, since that is the reason we are in business.

Generally these are high ticket sale or rental items, therefore if you do not now have accounts receivable you will.

Many of these people will be covered by some type of insurance. If they are younger it may be Major Medical or Workman's Compensation. If they are over 65 most will have Medicare coverage and a number will have Medicaid or the combination of Medicare and Medicaid.

These are four distinctly different situations, so if you intend to bill them directly it is imperative that you have a complete understanding of exactly how each works.

Insurance companies are usually the easiest to work with. Medicare and Medicaid require that you dot the I's and cross the T's and do it exactly their way in order to get paid.

If you don't do it exactly their way I can assure you that your claim will be rejected. The fun really begins when the patient has both Medicare and Medicaid and you have to get part of the payment from one and part from another.

The alternative method, and the simplest method, is to bill the patient directly and provide receipt so he can collect from his insurance company. This is possible in all areas with the exception of Medicaid who will not reimburse the patient.

This has been a broad overview of the Home Respiratory Care field.

If you had no idea what it was all about before, you now have a general idea. Had you been entertaining thoughts of Respiratory Care you should have a better basis for making the decision and an understanding of what direction your efforts should take to approach the development of your program.

Thank you.

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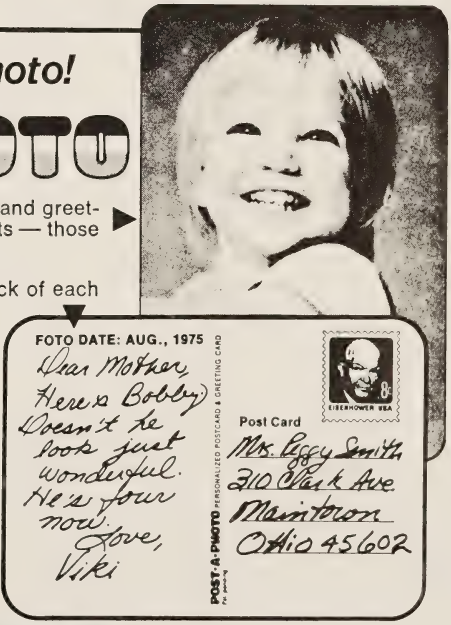
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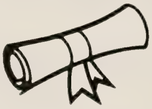
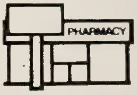


- College education and training of five years or more, including courses in drug chemistry, drug therapy, how drugs work in your body, and anatomy and physiology
- Continuing education courses and seminars your pharmacist attends on a regular basis to keep abreast of new trends in drug therapy

Pharmacy Expenses

In addition to normal operating expenses, your pharmacist incurs a number of added costs directly related to providing you with professional service These include:

- An inventory of several thousand drugs, many of which are used only occasionally
- Exhaustive records required by state and federal laws
- Special containers for your prescriptions
- Continuing education and subscriptions to professional journals
- Pharmacy registration and license renewals



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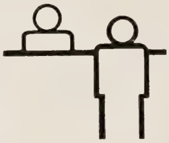

- Consultation with you on the proper dosage, administration and storage of your medication
- Detection of possible side effects and possible drug interactions.
- Expert advice on all the medication you take, prescription and nonprescription
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APhA is pleased to provide a patient education leaflet designed to enable pharmacists to acquaint their patients with some of the costs involved in providing comprehensive pharmaceutical service.

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If you'd like to make "The Cost of Your Prescription" a regular part of your patient education program, this leaflet is available at the following quantity rates:

1,000 leaflets	$ 6.00 to APhA members	$ 9.00 to nonmembers
5,000 leaflets	$25.00 to APhA members	$35.00 to nonmembers
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790415

A Brief Look at New Drugs

'Vira-A' (vidarabine), researched, developed and manufactured by Warner-Lambert Company, Morris Plains, NJ was approved by the Food and Drug Administration (FDA) in October, 1978. Marketed as an injectable, it is the first safe and effective treatment for herpes simplex encephalitis, an extremely serious virus infection of the brain, which if untreated, causes death in approximately 70 to 80 percent of patients who suffer the disease. According to studies sponsored by the National Institute of Allergy and Infectious Diseases, Vira-A therapy reduces mortality from 70 to 28 percent. Vira-A has been under study since 1962. The drug's most common adverse reactions are mild to moderate anorexia (loss of appetite), nausea, vomiting and diarrhea.

* * *

'Platinol' (cisplatin), manufactured by Bristol Laboratories, division of Bristol-Myers Company, New York, NY was approved by FDA in December, 1978. For use in treating patients with advanced cancer, especially testicular and ovarian cancer, it was first discovered ten years ago by researchers at Michigan State University. The drug was later developed by the National Cancer Institute working with a number of major cancer centers throughout the U.S. Platinol is one of a group of platinum-containing compounds found to be useful in treating cancer. As with most anti-cancer drugs, its side effects are significant.

* * *

Natamycin, manufactured by Alcon Laboratories, Fort Worth, Texas was approved by FDA in November, 1978. This new antibiotic treats a rare fungus infection of the eye that frequently causes blindness. As few as 300 Americans a year suffer from this infection, known as fungal keratitis. In tests performed by three eye specialists, nearly 80 percent of the patients treated with natamycin eye drops retained their sight. Adverse and allergic reactions to the medication are infrequent.

* * *

'Mefoxin' (cefoxitin sodium), researched and developed by Merck Sharp & Dohme Research Laboratories, Rahway, NJ, and West Point, PA, was approved by FDA in October, 1978. A semi-synthetic, broad-spectrum injectable antibiotic, Mefoxin is effective against a wide variety of serious bacterial infections, including those that are troublesome in hospitals and those that are resistant to other antibiotics. It was first introduced in Europe in January 1978. Mefoxin should be given with caution to patients allergic to penicillin; the product is contraindicated in patients allergic to cephalosporin antibiotics. Side effects have been infrequent, the most common being local reactions following injection.

* * *

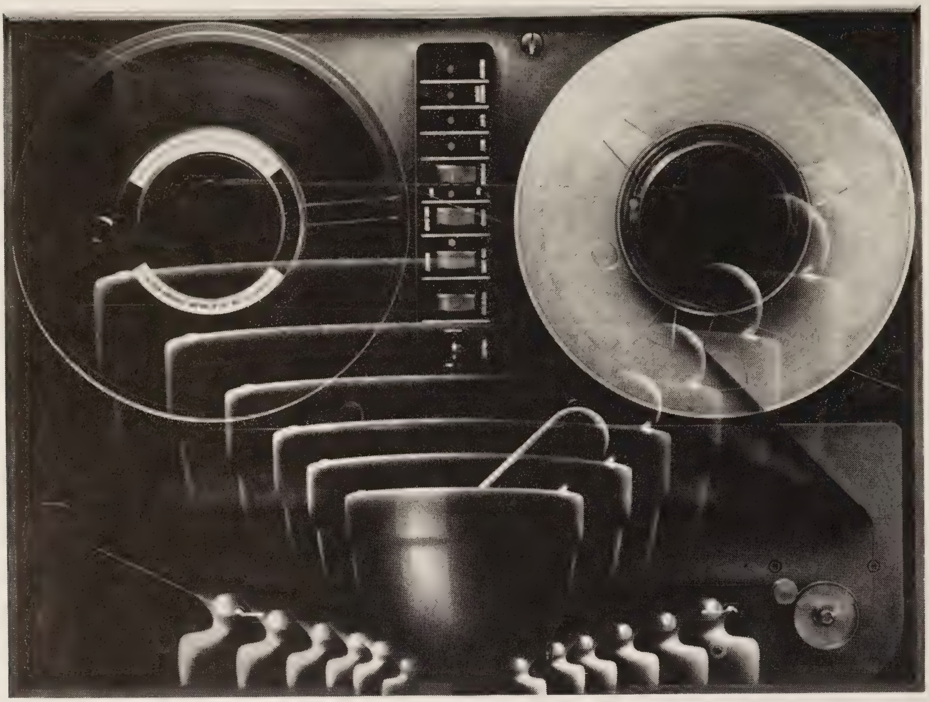
'Duricef' (cefadroxil monohydrate), researched, developed and manufactured by Mead Johnson & Company (Evansville, IN), subsidiary of Bristol-Myers Company, was introduced in January, 1979. This new antibiotic is currently approved for the treatment of urinary tract infections. Duricef produces prolonged antibiotic concentration in the blood and urine; thus it can be administered twice daily, thereby providing increased dosage convenience. Caution should be taken with penicillin/cephalosporin sensitive patients. The most frequent side effects are nausea and other gastrointestinal reactions.

* * *

'Stadol' (butorphanol tartrate), manufactured by Bristol Laboratories division of Bristol-Myers Company, New York, NY, was approved by FDA in August, 1978 as a result of a joint Bristol US and Canadian research effort. A potent injectable analgesic, it is intended for the relief of moderate to severe pain. (Unlike most potent pain relief agents, Stadol is not classified as a controlled substance by the U.S. Drug Enforcement Administration.) It is a totally synthetic product. Stadol was first marketed in Canada in 1977. The most frequent adverse reactions are sedation, nausea and clammy/sweating.

Thirty-seven members and twelve guests of the Phi Delta Chi Fraternity, Iota Chapter, enjoyed six glorious days of fun in the sun at the Daytona Beach ocean front motel Treasure Island. The group also visited Disney World during their spring break excursion.

LOOK WHAT'S BECOME OF THE MORTAR AND PESTLE.



It's where pharmacy is today. And tomorrow's pharmacists are learning about it right now.

Change is constant in the pharmaceutical industry. New classes of drugs are being developed. Computer technology is expanding horizons from research to drug synthesis to final manufacture. New precision equipment is helping to produce consistently reliable products. New marketing techniques are evolving. And new government regulations are being proposed which could affect the way pharmacy is practiced.

These changes are taking place at a rapid pace—so rapid, in fact, that the Pharmaceutical Manufacturers Association has created a unique educational program to help keep pharmacy school faculty, students and practicing pharmacists aware of current industry practices.

THE PMA PHARMACY FACULTY PROGRAM. REACHING THE PROFESSION THROUGH THE PHARMACY PROFESSOR.

Now in its fourth year, the PMA Pharmacy Faculty Program is an invitation to educators to see firsthand what's going on in the pharmaceutical industry. Participants in the program spend two weeks at the facilities of a major pharmaceutical firm, taking part in a series of daily conferences with its scientists and executives. During this time, they get an overview of industry, technology, and approaches associated with research and development, marketing and distribution, production and quality control.

These faculty members can then bring back the knowledge gained to their students in the classroom, and to you, the practicing pharmacist, in continuing education programs.

The PMA Pharmacy Faculty Program. It's one of the things we're doing to help keep the profession up to date on industry operations.

For more information write to: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005, Attention: Dr. John S. Ruggiero.

PMA

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TOPICS OF CONTEMPORARY INTEREST MADE AVAILABLE THROUGH YOUR ROCHE REPRESENTATIVE
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(Check the reverse side of this page.)

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Roche Reference Service for Pharmacists—
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For more information write to Roche or contact your Roche Representative.

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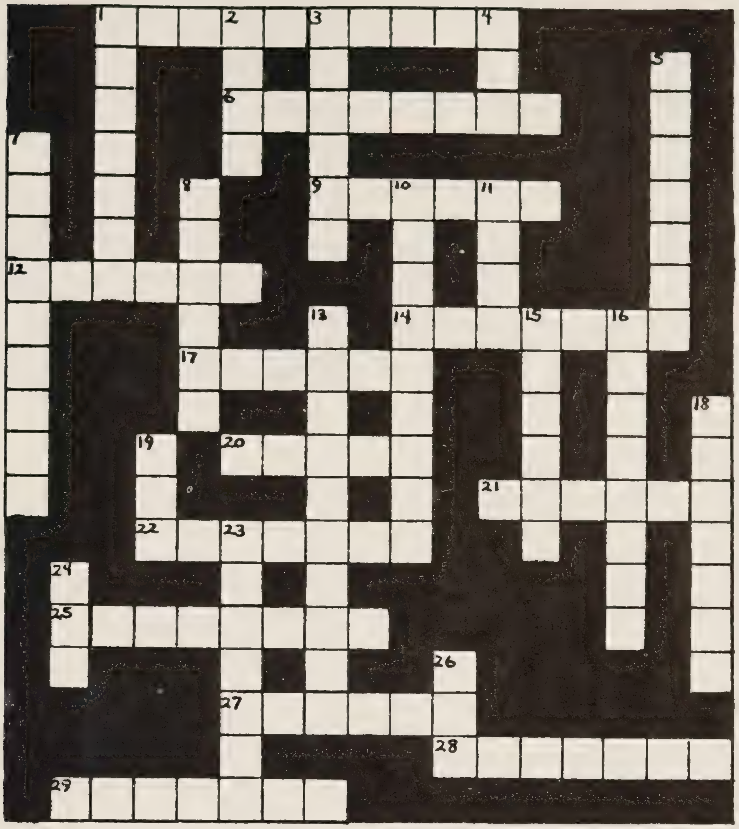
Continuing Education Crossword Puzzle

by Nicholas G. Popovich, Ph.D., R.Ph.



ACROSS

1 Aminoglycoside drug marketed by Schering Laboratories
6 Drug product used to treat extrapyramidal symptoms associated with phenothiazine use
9 A thin, nonporous sheath that is worn over the penis during coitus
12 Diazepam (Roche)
14 Penicillin G product (Squibb)
17 Erythromycin stearate (Parke-Davis)
20 Latin word meaning oil
21 Antipsychotic drug product (McNeil)
22 The compound tincture of this drug when mixed with sugar and ointment base can be used on weeping lesions and bedsores.
25 A single dose of 300 mg. of this product at bedtime is just as effective as three divided 100 mg. daily doses for gout.
27 The syrup of this drug is effective in effecting emesis in selected poisonings.
28 An animal source of insulin
29 Parke-Davis' trademark capsule name

DOWN

1 New product formulation of Warner-Chilcott — an antacid containing aluminum hydroxide, magnesium hydroxide, and simethicone (Warner-Chilcott)
2 Trade name of chlorotrianisene
3 Megestrol acetate, a progestational agent indicated for the palliative treatment of advanced carcinoma of the breast is available is:
4 National Cancer Institute (Abbrev.)
5 OTC Dihydroxyaluminum sodium carbonate tablets (American Chicle)
7 Trade name of silver sulfadiazine
8 Brand name of reserpine (Squibb)
10 Pertofrane is to USV as ______ is to Merrell-National.
11 Abbott Laboratories' crystalline estrone solubilized as the sulfate and stabilized with piperazine
13 Brand name of hydralazine (Ciba)
15 Amobarbital sodium and Secobarbital sodium (Eli Lilly and Co.)
16 Dalibour Solution (Trade name)
18 Eight and twelve mg. spansules of chlorpheniramine maleate
19 Shortness of breath (Abbrev.)
23 When prepared this intravenous antihypertensive product should be immediately wrapped in aluminum foil or other opaque material to protect it from light.
24 ______ Gantrisin Tablets
26 Phencyclidine HC1; "Angel Dust". Initials.

Nicholas G. Popovich, Ph.D., R.Ph. is Associate Professor of Clinical Pharmacy at the Purdue University School of Pharmacy and Pharmacal Sciences.

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NACDS on Patient Information

by Dagmar Torres
NACDS

presented to the 1979 Spring Regional Meeting

MARYLAND PHARMACEUTICAL
MP
ASSOCIATION

Picture courtesy Paramount Photo Service

Good morning ladies and gentlemen. On behalf of Kathleen McGee, Vice President-Professional services and the NACDS membership, I would like to thank MPhA and in particular, David Banta, for this kind invitation to appear before you. Today, I have been asked to discuss patient information, which in our organization's opinion is one of the most critical areas confronting the pharmacy community.

One of the most challenging trends affecting pharmacy's future is the growing sophistication and awareness of the American consumer. Americans today are not only seeking far more information but, in addition, are seeking either increased quality or greater value for their dollar. This is certainly true in the general marketplace, including pharmacy.

The members of our Association, the nation's chain drug stores, tell us that today's consumer is far more sophisticated than her mother was back in the 1950's. (I characterize consumers as "she" because research sponsored by NACDS indicated that more than 73% of our customers are female.)

This higher level of public sophistication is not limited to preferences for consumer goods. Today's consumer is more demanding when she seeks health-care services for herself or her family as well.

The public wants quality health-care and also wants value for their limited health dollar. At the same time, it has been stated that for millions of Americans, the community pharmacy is the point of entry into the health-care system.

The community pharmacy sees the patient more frequently than does any other health professional. Therefore, there is no doubt that today's consumer seeks complete information relating to the price, availability, quality and scope of pharmaceutical products and services.

NACDS not only endorses the consumers' right to accurate and complete information about the prescription drugs they are taking, but also believes that pharmacies should have the freedom to use appropriate means, including advertising, to communicate such information to the public.

Given the current trend to provide more consumer information, not only for prescription drugs but I might add OTC products, what does this mean for the community pharmacist?

Among other things, it means that tomorrow's pharmacist will have to interact more directly with their patients. In order to give the pharmacist more time we must free the pharmacist from some of the mundane tasks involved in dispensing of prescription products. If qualified personnel and labor saving equipment are permitted to assist the pharmacist, then the pharmacist will be relieved of these time-consuming duties, but *not* his professional responsibility. He will then have the opportunity to develop other services to aid the consumer.

The pharmacist must then be motivated to use this increased time in a productive manner, guided by his profession, employer, and the public. With more time to use and apply his knowledge, the pharmacist would then have the challenge and opportunity to meet face-to-face with his patients, other professionals and his peers. If the pharmacist is to change his present mode of practice, he must be personally motivated to do so and encouraged to use his opportunity to interact with his patients.

Therefore, NACDS believes that legislation and regulations on both the federal level and state level which inhibit, specify, standardize or restrain the form, content or means used to communicate such information are contrary to the public interest.

This year, a major issue in state legislatures impacting on the practice of pharmacy, is in the area of consumer information on drug products.

Pending state legislation calls for not only mandatory patient consultation and auxiliary labeling, but also federal mandatory patient package insert requirements (PPI). While legislating increased pharmacist-patient interaction may not be the ideal method of fostering a higher level of professionalism, it is however, an indication of the increased public sophistication I mentioned earlier. There can be no denying that people want to know more about what they are buying.

Presently, the states of Kansas, Maine, Massachusetts, New Jersey, North Dakota, Oregon, Washington, and Wisconsin mandate patient consultation.

The 1979 legislative session has already seen patient consultation bills introduced in the state legislatures of Mississippi, Missouri, and New York. However, recently introduced in the California legislature is a bill to repeal the current mandatory patient consultation regulation.

Last fall, the California State Board of Pharmacy overrode a veto by the Director of Consumer Affairs to implement their mandatory patient consultation regulation.

Regulation 1717 (K), provides that a pharmacist consult orally with each patient on each new prescription in the pharmacy.

Consultation on refills are based on the professional judgement of the pharmacist. In addition, pharmacies which deliver 50% of their drug products outside the trading area must accept toll calls or provide a toll free number for patients to obtain drug information.

Regulation 1717 (K) is a well-intentioned effort on the part of the State Board of Pharmacy to provide consumers with prescription drug information. However, earlier this year, California Superior Court Judge Irving Perluss granted a preliminary injunction on grounds that not only is regulation 1717 (K) unenforceable, but that the wording of the regulation is so vague that it fails to tell pharmacists what steps should be taken when consulting with the patient.

Elementary government courses have taught us that regulations should state clearly and uniformly the standards to be followed. In this regard, pharmacists have a right to know and understand the standards to which they are to be held accountable. Across the board, mandatory patient consultation requirements have failed this test.

While we may have laws which mandate minimum standards of practice to safeguard the patient, it is up to the pharmacist himself to exceed these standards. However, it is important to add, that new standards not be arbitrarily thrust onto current practice in order to force change for the sake of "progress".

New standards must be based on the orderly development of the expansion of the profession itself. In the long run, however, personal motivation is the key, not the imposition of legal requirements for pharmacists to meet actual consumer needs, the needs of pharmacy and the needs of other professions interacting with pharmacy.

It is not enough to simply acknowledge the growing emphasis on pharmacist-patient information. Again, the driving force behind this emphasis is the patients themselves or at least consumer groups who purport to represent public demands and concerns.

One must begin to examine some of the reasons for this growing emphasis. Are pharmacists not doing an adequate job of communicating with their patients now?

The public's perception is no, and what's more important the federal government doesn't think so either. Furthermore, results of current studies also indicate that pharmacists do not communicate with their patients.

However, we believe that this can be reversed. Today's pharmacist *is capable* of giving better care to his patients. The pharmacist's confidence in his knowledge and skill as "the" expert in drugs will help him in educating the consumer in using drug products and generally informing him on health care issues. However, if this information is not readily available from either the physician or the pharmacist, the patient will seek other avenues. Stated simply and clearly, the patient is going to ask the government to take over that responsibility.

If there was no room for improvement in the current level of patient interaction, pharmacists would not be faced with patient package insert requirements.

In effect, the government's on-going campaign to require federally approved package inserts for an increasing number of prescription and OTC drugs represents a charge by HEW and FDA officials that pharmacists are not communicating fully and effectively with patients. Of course, the government's perceived need for package inserts also reflects a similar failure on the part of the nation's physicians, but, as usual, the brunt of the regulation will be carried by pharmacy.

I hope we can all agree that a preprinted package insert is not the best way to provide pharmaceutical information to a patient. However, unless you begin communicating more effectively in community pharmacy, the government will continue to side-step you as a source of drug information.

I believe most community pharmacists today realize this, and as a result there will be a substantial rise in the level of interaction at the prescription counter over the next few years.

But there is another very practical dollar and cents reason why pharmacists will be called on to provide more direct patient communication — it relates to the growth of third party drug coverage.

As third party prescription programs expand, the price of prescription services becomes less a factor for patients in choosing a pharmacy. Instead tomorrow's patient will be more likely to select a pharmacy on the basis of other non-economic factors: convenience, services such as patient medication records, and the amount of personal attention and communication they receive from the pharmacist.

As a result it will be in the best interest of both chains and independent pharmacies to provide patients with ample opportunity to consult with the pharmacist. A new pharmacist entering practice during the next few years who hopes to remain isolated from the patient would be well advised to find employment in a research lab rather than in a community pharmacy.

Unless pharmacists realize the importance of the issue before us today; the government, and FDA, aware of its mission to protect the public health, will continue to carry the banner of the consumer through its advocacy of patient package inserts.

Last year, Senator Edward Kennedy, on behalf of the administration introduced the Drug Regulation Reform Act of 1978. As to the specifics of the legislation, our primary concerns are virtually unchanged since last summer when NACDS presented testimony before Paul Roger's Health Subcommittee.

Speaking strictly from a retail pharmacy standpoint, we are most concerned with the ramifications that this bill would have on our members' ability to continue to provide quality pharmaceutical products and services to consumers at a reasonable price.

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While the administration and certain Members of Congress may not lose sleep over the effects this bill would have on the likes of Walgreens, Revco or the Jack Eckerd Corporation, they might be more attentive to our arguments and concerns relative to the problems that the Drug Regulation Reform Act could create for our smaller members with only four stores and certainly to most of you, as independent pharmacists.

In particular, we are very concerned over the legislation's patient labeling requirements which would grant the Secretary of HEW with the authority to mandate patient package inserts as a condition for initial or continued licensure of prescription and non-prescription drug products.

The inserts that are currently available present an abundance of information on contraindications, adverse reactions, and side effects which are associated with the drug. Because the information is slanted toward the undesirable potentials of therapy, the patient is not receiving a fair presentation on benefits of therapy as well as the possible risks. In our opinion, patient non-compliance with drug therapy will result.

The patient package inserts in use at the present time are distributed by a pharmacist when a prescription is filled. At that time, it is *too late* for the patient to use the information to intelligently participate in the decisions about appropriate therapy, or therapy with acceptable risks. Questions about the therapy after the prescription is filled may lead to costly re-visits to the physician or non-compliance with the treatment.

The chain drug industry strongly believes that the pharmacist should serve as a supplemental source of information after the patient has thoroughly discussed drug therapy with the physician. In this way, the patient will have a more complete understanding of the medication being taken.

These concerns in no way denigrate the role of the pharmacist as an advisor to patients on the proper use of drugs. Since, however, the pharmacist is not empowered to make therapeutic choices for the patient or substantive changes in the prescription order, dispersal of risk/benefit information should be made at the point of those decisions in the physician's office.

NACDS believes that patient package inserts constitute a very dangerous step toward permanently altering the extremely important physician-patient-pharmacist relationship. In brief, we see these inserts as a substitute for most of the meaningful discussions between the patient and various health care providers regarding drug therapy that takes place in our health care delivery system, and this is not in the best interest of the patient.

FDA currently requires patient package inserts for only a few drug product categories. However, each time FDA promulgates regulations to require PPI's our members experience problems relative to their availability, distribution, storage and handling of large quantities of these inserts. So you can imagine the magnitude of what you would be faced with under a total patient package insert program. For certain, pharmacies would have to be redesigned to accommodate all of these inserts and one would suspect that additional personnel may be needed in certain instances to assist the pharmacist.

NACDS has also raised another point for consideration and that is the liability aspects should wrong patient package inserts be provided when the drug is dispensed. Careful consideration must be given to this possibility when one evaluates all other responsibilities that are expected of the pharmacists, not to mention the time consuming task of processing third party claims under federal, state and private programs.

NACDS has urged FDA to hold these regulations in abeyance until manufacturers, key pharmacy representatives and consumers can thoroughly study the overall effects of a patient package insert program with regard to patient compliance and the costs to provide these brochures when drugs are dispensed. NACDS shares the concerns of ASHP as to whether or not FDA has established a goal for its program.

However, we have since learned and fully support FDA's request that the National Academy of Sciences establish research priorities for PPI's and conduct the necessary studies before FDA proceeds further with its announced intention to issue PPI's.

NACDS has recommended an alternative of permitting physicians and pharmacists to display the uniform inserts in a notebook binder that would be located in the pharmacy department.

Under this system, which would be similar to warranty binders that are required by the Federal Trade Commission, patients could study the inserts when the doctor is writing the prescription prior to having their prescription filled in the pharmacy.

Simply stated, this arrangement would be far more economical and more easily administered in that the pharmacy department would be able to provide uniform inserts in notebook binders. With uniform inserts readily available in notebooks, the patient could read these brochures and consult with the pharmacist relative to the prescribed drug therapy.

NACDS believes that as long as pharmacists are faced with PPI's, any savings that can be realized should receive favorable review since the administration is attempting to fight inflation on all fronts, particularly with respect to minimizing the impact federal regulations have on businesses and the economy.

I trust you will agree with me that many questions have not yet been adequately answered. How the pharmacy profession will balance the legitimate concerns of the consumer and the legitimate burdens of your practice is for each of you to weigh. As long as the community pharmacy exists, and as long as people depend on you for their health care needs, it behooves you to supply them with the best of your profession and the best of yourselves. If not, the government and state legislatures, responding to consumer concerns will do it for you.

I have sincerely appreciated the opportunity to speak before you today, and I thank you.

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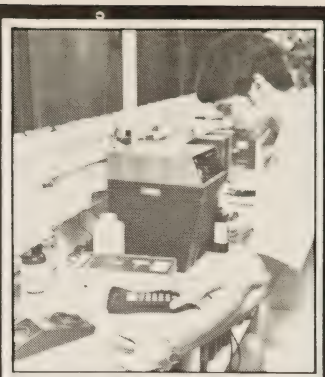

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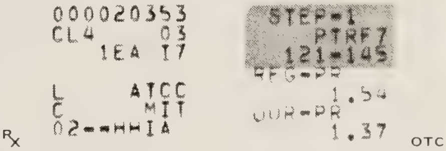

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We're listening, Jacksonville

"I'm convinced that good working relationships with your employees is one of the most challenging aspects of pharmacy management today," says Pharmacist Gilbert Weise of Jacksonville, Fla.

"Your employees' attitudes towards their jobs will affect the way your customers are treated. These attitudes can build or destroy the professional image you're trying to achieve. They can be critical influences on sales and profitability. What I'm saying is that satisfied, motivated employees are very important to the success of a pharmacy operation."

We hear you, Gilbert Weise

One of SK&F's many services for community pharmacists is a new program called "Understanding and Motivating Pharmacy Employees." It introduces participants to many of the personality and motivational factors in dealing with people in work environments.

The program is designed to last two hours, with open discussion among participants. A 40-minute video tape is included with program materials. In many states, this program can qualify participants for Continuing Education credit.

Interested? Contact your SK&F Representative or place a toll-free call to Jordan Johnson, R.Ph., SK&F's Manager of Pharmacy Relations (800) 523-4835.

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REGULATIONS AND PAPERWORK

Recently representatives from the MPhA attended a regional Small Business Administration Conference. Regulation and Paperwork was one of several issues discussed. Maryland pharmacists know how much it contributes to the cost of business and, ultimately, to the cost of prescriptions. The following discussion paper was used at the conference. Members may wish to use this information when discussing these issues with state and federal legislators.

I. ISSUES

- A. Cost of Regulations and Paperwork.
  - 1. Federal regulation of business will cost at least $120 billion in 1979.
  - 2. The Commission on Federal Paperwork estimated that small business bears 60% of the paperwork costs imposed by government on business.
  - 3. It is estimated that regulation will take an average $12,000 out of the pocket of every small business owner.
- B. The small business owner is exceptionally burdened with Federal regulations.
  - 1. Regulations have minimum costs which represent a far larger proportion of expense in small companies.
  - 2. A small business owner must often hire special help to deal with the complexities of Federal regulations.
  - 3. Small business owners usually find it very difficult to communicate with government, not having the large government relations staffs of major corporations.
- C. Some programs which need attention are as follows: IRS, OSHA, ERISA, EEO, EPA, Procurement, Census, Social Security, Unemployment Insurance, FTC, ICC, FDA, and the Consumer Product Safety Commission.
- D. Types of regulations.
  - 1. Regulations which say what one must or must not do.
  - 2. Regulations which require one to do something as a result of a phone call, letter or visit from the government.
  - 3. Requirements for voluntary programs such as government procurement.
  - 4. Incentive programs such as tax provisions which encourage or discourage certain types of activities.
  - 5. State and local government regulations.

II. REFORMS CURRENTLY PROPOSED OR INSTITUTED BY THE GOVERNMENT

- A. OSHA has recently eliminated almost a thousand regulations and drastically reduced its reporting requirements.
- B. Congress and the Administration have acted to eliminate the IRS 941A report, a quarterly report of employees by employers and changed it to an annual report.
- C. The Administration has requested that agencies discuss proposed regulations while they are being drafted with those who would be burdened.
- D. The Administration has ordered "sunset" reviews every five years to determine if regulations are still necessary.
- E. SBA is upgrading its Advocacy office to better represent the interests of small business.
- F. The Senate now requires paperwork assessments of all legislation.

III. RECOMMENDATIONS

- A. Special financial assistance or tax relief for the large one-time expenditures for making changes necessary to comply with regulations.
- B. Some type of ombudsman service could be provided to offset the lack of legal expertise and representation in Washington.
- C. The Federal Government could provide small enterprises with technical assistance to meet regulatory requirements.
- D. The Federal Government could provide small enterprises with financial assistance such as tax breaks to meet regulatory requirements.
- E. Those with a good record of compliance should earn some relief from inspections or form-filing.
- F. Very small businesses could be made exempt from many requirements.
- G. A multi-tiered system, with opportunities to qualify for less paperwork by reaching a higher level of compliance or demonstrating smallness could be instituted.
- H. Eliminate government from programs where others can do the job better.
- I. Get the people involved and seek their comments on programs, regulations and paperwork before they become final.
- J. Design forms so that they are easy to use.
- K. Write government material so that it can be understood and set readability standards.
- L. Require "plain English" in government materials.

Kappa Psi Plans Centennial

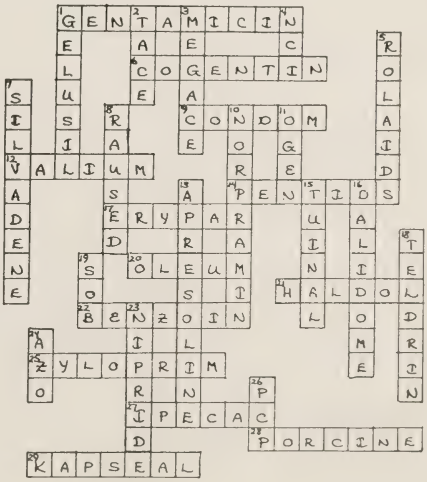
In 1979 Kappa Psi professional pharmaceutical fraternity will celebrate its 100th anniversary. To commemorate this occasion, Kappa Psi is planning to celebrate this historic event at its 39th Grand Council Convention to be held August 5-10th at the Marriott's Camelback Inn in Scottsdale, Arizona.

Throughout the last 100 years, Kappa Psi has always maintained its high ideals and ethical standards in supporting and promoting the profession of pharmacy. When Kappa Psi was founded 100 years ago, no one could possibly foresee that it would endure so long and that it would have influenced the lives of so many individuals. The record of success and the many outstanding contributions could have been achieved only by the kind of loyalty and service which one sees at its best in an American college fraternity.

If you are not on our mailing list, or have not been receiving our official publication, The Mask, please contact the Central Office at the following address:

Kappa Psi Pharmaceutical Fraternity
The Central Office
1350 W. Robinhood Drive, Suite 3
Stockton, CA 95207

Crossword Puzzle Key



Liability Protection

(It comes with every tablet you dispense)

A significant article on pharmacy law stated that "it is not unlikely that pharmacists substituting therapeutically or bioequivalent drugs for those prescribed will face increasing confrontation in the courts on the issue of their liability for unanticipated or adverse reactions from drugs dispensed by them."*

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Today's pharmacist faces many problems. Unnecessary liability risk is one you can avoid.

*From a special report reprinted from *U.S. Pharmacist* 2(4):18-23, 1977. "Pharmacy Law," by Michael R. Sonnenreich, J.D.

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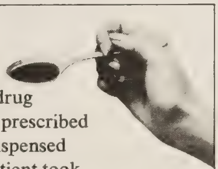

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That the patient took
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Alpha-hemolytic streptococci (viridans group)—Short-term prophylaxis of bacterial endocarditis prior to dental or other operative procedures in patients with a history of rheumatic fever or congenital heart disease who are hypersensitive to penicillin.

S. aureus—Acute infections of skin and soft tissue of mild to moderate severity. Resistant organisms may emerge during treatment.

S. pneumoniae (D. pneumoniae)—Upper and lower respiratory tract infections of mild to moderate degree.

M. pneumoniae — For respiratory infections due to this organism.

Hemophilus influenzae: For upper respiratory tract infections of mild to moderate severity when used concomitantly with adequate doses of sulfonamides. Not all strains of this organism are susceptible at the erythromycin concentrations ordinarily achieved (see appropriate sulfonamide labeling for prescribing information).

Treponema pallidum—As an alternate treatment in patients allergic to penicillin.

C. diphtheriae and C. minutissimum—As an adjunct to antitoxin. In the treatment of erythrasma.

Entamoeba histolytica—In the treatment of intestinal amebiasis.

L. monocytogenes—Infections due to this organism.

Establish susceptibility of pathogens to erythromycin, particularly when *S. aureus* is isolated.

Contraindications:

Known hypersensitivity to erythromycin.

Warnings:

Safety for use in pregnancy has not been established.

Precautions:

Exercise caution in administering to patients with impaired hepatic function. During prolonged or repeated therapy, there is a possibility of overgrowth of nonsusceptible bacteria or fungi. Surgical procedures should be performed when indicated.

Adverse Reactions:

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2/08857

LETTERS

Dear Mr. Banta:

It would be appreciated if you would put the following notice in the next issue of the Maryland Pharmacist.

Thank you for your assistance.

— NOTICE —

THE MARYLAND BOARD OF PHARMACY WILL CONDUCT AN EXAMINATION FOR REGISTRATION AS PHARMACIST AT THE UNIVERSITY OF MARYLAND IN BALTIMORE, MARYLAND ON JUNE 5, 6 AND 7, 1979. APPLICATIONS MUST BE IN THE OFFICE OF THE BOARD BY MAY 1, 1979. FOR PARTICULARS APPLY TO:

Bernard B. Lachman, President
Maryland Board of Pharmacy
201 West Preston Street
Baltimore, Maryland 21201
Phone 383-7245

Sincerely,

Bernard B. Lachman, President
MARYLAND BOARD OF PHARMACY

Dear Mr. Banta:

As you probably know, a number of firms recently have begun distributing sprionolactone products said to be equivalent to Searle's ALDACTONE® and ALDACTAZIDE®. As the innovator of spironolactone, we feel an obligation to advise your organization of the situation that exists with a number of these generic products.

You should be aware that several companies producing or distributing generic spironolactone products are doing so without support of an approved New Drug Application (NDA) or an Abbreviated New Drug Application (ANDA). Under these circumstances, it would appear prudent for any member of your association to make inquiry into the status of any product being considered for purchase. Recently, the FDA began seizure of several unapproved generics including spironolactone products in various parts of the country.

While these legal aspects may be important to you for several reasons, you should also be aware that it is documented in the scientific literature that formulation changes can affect the in vivo bioavailability of spironolactone (ALDACTONE). Also, the combination of spironolactone and hydrochlorothiazide (ALDACTAZIDE) is considered to be a drug with potential bioavailability problems.

In the event of a liability claim, if the pharmacist is unable to demonstrate by accurate records that Searle spironolactone products were dispensed, then Searle & Co. will not be in a position to indemnify and hold harmless the pharmacist. Our product liability coverage extends only to ALDACTONE, ALDACTAZIDE and other Searle products.

Sincerely,

Samuel H. Gray

S. H. Gray
Vice President
Sales and Marketing
North America

Dear David:

The enclosed notice was sent to all pharmacies of one chain by the corporate management as a result of a consumer complaint received by the Board of Pharmacy. Perhaps it would be helpful to have this important reminder brought to the attention of all Maryland pharmacists. The author of the notice has given me permission to send it to you.

As a result of an audit the Board has just completed of consumer complaints received for the period of July 1, 1977 to December 31, 1978, we have observed that there are an increasing amount of complaints from consumers who receive generic drugs without any form of notification or explanation of substitution. There have been a few instances of mislabeling the product with the brand name written on the prescription rather than the generic name of the product actually dispensed.

A clear notice written or spoken that the pharmacist has substituted a generic drug for a brand name at a monetary saving to the consumer would help, I believe, to introduce the procedure and benefits of substitution to the public. It might also serve to lessen confusion surrounding substitution — still unclear to many consumers.

Other areas in which there were a repetition of complaints included:

1. receiving the incorrect drug
2. short count without notifying patient
3. incorrect or incomplete labeling
4. incorrect amount charged for prescription
5. false advertising
6. dispensed a large amount of a controlled drug to one individual

Sincerely,

Estelle G Cohen

Estelle G. Cohen, Commissioner
Maryland Board of Pharmacy

(ALL PHARMACIES)
IMPORTANCE OF CHECKING Rx's

Recently one of our pharmacists filled a Rx for a chewable tablet with a non-chewable capsule of a close but different strength. This error could have been avoided if the pharmacist would have checked the Red Book to learn that a tablet was indeed available. The pharmacist was unaware of the availability of a chewable tablet of this drug and made two basic errors:

1. He did not check the Red Book to ascertain that such a dosage form and strength was available.
2. He did not verify the Rx with the physician.

We are noting this incident to impress upon all of our pharmacists that it is absolutely essential to check with the physician when there is a question in dispensing a different dosage form and strength from that prescribed by the physician. In this case a simple check of the Red Book or Blue Book would have prevented this problem from transpiring.

There are still plenty of occasions when pharmacists must exercise professional judgement, but it never extends to changing a dosage form or strength of any Rx without the physician's knowledge and approval.

Barb Newman spent 8 years as a community pharmacist. Now she is putting this valuable experience to work as an Upjohn associate product manager. She knows the problems pharmacists have with many packaging and dispensing formats, and with certain promotions. This knowledge helps her promote existing products and bring new drugs to market.

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THE
MARYLAND
PHARMACIST

Official Journal of
The Maryland
Pharmaceutical
Association

JUNE, 1979
VOL. 55
NO. 6

Gallstone Disease

Man vs. Pain with T.N.S.

–Martin B. Mintz, R.Ph.

Measuring the Results of Advertising

–Elizabeth M. Sorbet

Winner, 1979 Sandoy
Medical Journalism Award
for State Pharmacy Journals

THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET
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JUNE 1979 VOL. 55 NO. 6

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President's Message

As I review the accomplishments of the Association over the past year that I have served as your President, it occurs to me that the most significant thing that we have accomplished has been to help individual pharmacists when they have a crisis. The Association's concern over the difficulties that Pharmacists Abe Glaser and Neal Jacobs encountered has been well-published.

What has remained somewhat unheralded has been the number of times the Association has come to the assistance of a number of other pharmacists in a variety of ways.

One Pharmacist had tried for years, on his own, to accomplish something that, with the Association's help, is being rapidly cleared up. Bureaucratic red tape has been cut, sometimes with just a telephone call. At other times, the Association's staff, attorney and officers have become involved in solving a complaint.

But then, this is one of the major reasons for even having the Association. The old axiom about strength in numbers is especially appropriate to the Maryland Pharmaceutical Association. This may not be a service that we can list in a benefit's brochure, but in many ways it is one of the most important we have.

I encourage you to take advantage of the assistance you can receive by calling the office. Your question might help us all. Your suggestion could provide the answer we have been looking for. And your constructive comment may improve the Association even more.

Gallstone Disease

In recent years, advances have been made in our understanding of the way gallstones form and of factors that predispose people to the development of gallstones. In addition, new techniques have expanded the capability of physicians to diagnose gallstones and their complications. Finally, we are on the verge of having medical dissolution of gallstones as an alternative to the only definitive treatment currently available, surgical removal of the gall bladder and gallstones (cholecystectomy). Many problems, however, remain to be solved.

Definition

Attesting to their ancient history, gallstones have been found in Egyptian mummies. Gallstones are stones found in the gall bladder. The Greek word gall means bile reflecting the early notion that gallstones are composed of compounds normally found in the bile. In fact, the composition of gallstones provides the basis for their classification into cholesterol or pigment gallstones. Cholesterol gallstones are comprised of at least 70 percent cholesterol, while pigment gallstones contain primarily bile pigments. Pigment stones have a greater tendency than cholesterol stones to become hardened (calcified). In the United States about 80 percent of the gallstones are cholesterol stones.

A considerable range occurs in the size and number of gallstones. Usually they measure about ¼ to ⅜ inch in diameter but they can be large enough to occupy the entire gall bladder (three inches across) or smaller than a pin head. The usual number of stones is between two and ten but solitary stones occur and thousands have been counted in a single gall bladder. The surface of gallstones most often is smooth or faceted but may be irregular. Cholesterol stones are shades of white, yellow, or tan, while pigment stones are black.

Why Gallstones Form

The liver secretes bile into the bile ducts. Bile is a water solution containing many compounds including cholesterol, bile salts, and bilirubin. Cholesterol is classified as a fat, a substance which ordinarily cannot be dissolved in a water solution. It is dissolved in bile, however, by the bile salts through their detergent-like properties.

During fasting, bile that had been secreted by the liver is stored and concentrated in the gall bladder. This organ is a spherical, two ounce-capacity, muscular sac just below the liver in the right upper quadrant of the abdomen. With meals, the gall bladder contracts and discharges its bile through the bile ducts into the upper intestine (duodenum). Most all of the bilirubin, about half of the cholesterol, and a small fraction of the bile salts are excreted in the feces. The rest of the cholesterol and most of the bile salts are reabsorbed in the intestine and returned to the liver.

If too much cholesterol or not enough bile salts are secreted by the liver, the cholesterol cannot be held in solution in bile and crystals of cholesterol form and group together to build gallstones in the gall bladder. Thus, gallstones basically result from a disease of the liver because the liver secretes abnormal bile saturated with cholesterol. Moreover, any situation that produces saturated bile has the potential to lead to cholesterol gallstone formation. For example, persons who are obese, have Crohn's disease, or ingest oral contraceptives, estrogens, or clofibrate (a medication used to decrease serum cholesterol), secrete too much cholesterol relative to their bile salts in bile; therefore, they are predisposed to develop cholesterol gallstones. Heredity also appears to play a role in gallstone formation. Much less is understood about why the less common pigment stones form.

Symptoms

About half of the patients with gallstones never experience symptoms from their stones. The other half develop symptoms because in these patients the stones inexplicably migrate to block the bile ducts. The myth that fatty foods induce gallstones to produce symptoms finally has been dispelled. Moreover, vague "indigestion," belching, heartburn or flatus cannot be attributed to gallstones.

Blockage of the bile ducts by gallstones causes one or more of four distinct problems: 1) Acute cholecystitis, a painful inflammation of the gall bladder; 2) biliary colic, a sudden, severe, steady pain usually lasting about one hour in the right upper abdomen caused by distention of the bile ducts; 3) cholangitis, an infection of the bile ducts causing high fever and shaking chills; and 4) jaundice, a yellow discoloration of the skin or whites of the eyes caused by a backup of bilirubin into the bloodstream. Any of these problems may be accompanied by nausea and vomiting.

The symptoms caused by gallstones usually resolve spontaneously or with appropriate treatment but they may

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Prepared for the Digestive Diseases Information Center by Leslie J. Schoenfield, M.D., Director, Division of Gastroenterology, Cedars-Sinai Medical Center; and Professor of Medicine, University of California at Los Angeles.

progress to complications or recur at unpredictable intervals. After acute cholecystitis subsides, chronic cholecystitis invariably develops but does not cause symptoms unless complications occur.

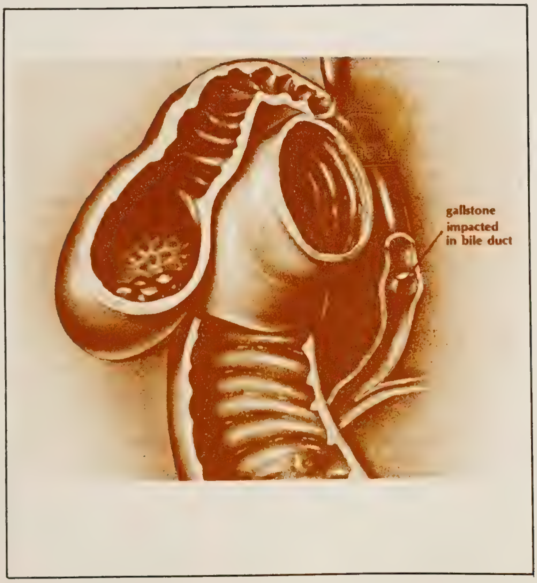
Complications

In about 25 percent of patients with acute cholecystitis, the complications of gangrene (tissue destruction) or perforation of the gall bladder ensue; these may lead to serious generalized infection. Acute pancreatitis, a painful inflammation of the pancreas, may occur when gallstones block the pancreatic duct, an anatomic companion of the bile duct. Prolonged or recurrent obstruction of the bile ducts by gallstones may produce liver damage because of the backpressure and chemical injury to the liver. Occasionally, a large gallstone may erode into the duodenum and pass down the intestine until it blocks the ileum which is the most distal and narrow portion of the small intestine. About one percent of patients with gallstones ultimately develop cancer of the gall bladder.

Diagnosis

The diagnosis is suspected clinically on the basis of the characteristic symptoms, epidemiologic features, and predisposing factors discussed above. Calcified stones may be recognized on a plain x-ray of the abdomen. The definitive diagnosis usually is established by an oral cholecystogram which is an x-ray of the gall bladder taken the morning after ingestion of tablets of contrast material. Intravenous administration of contrast material (intravenous cholangiogram) may be used to visualize the bile ducts.

In certain instances (for example, when the patient is (jaundiced), neither an oral cholecystogram nor an intravenous cholangiogram will reveal gallstones. Also, some patients may be allergic to the iodine contained in the contrast material. In this situation bile aspirated through a swallowed tube in the duodenum (biliary drainage) may reveal microscopic crystals of cholesterol or bilirubin pigment, reflecting the presence of gallstones. In addition, three newer techniques are available: Ultrasonography is based upon the detection of gallstones by the reflection of sound waves from the stones; endoscopic retrograde cholangiography (ERC) and transhepatic cholangiography (THC) permit direct instillation of radiopaque material into the bile ducts for x-ray visualization of the bile ducts, gall bladder, and gallstones.



Treatment

Patients with symptoms caused by gallstones generally should undergo surgical removal of the gall bladder (cholecystectomy) after appropriate medical management of the acute situation. This medical treatment may include medication to relieve pain, intravenous fluids, intubation and aspiration of the stomach, and in certain circumstances, antibiotics.

Chenodeoxycholic acid, "cheno," is a bile salt normally present in bile. It has been extracted from bile and is the first agent, taken by mouth in capsule form, that has been successful in dissolving gallstones. The rationale behind the use of "cheno" is to increase the capacity of bile to keep cholesterol in solution. Currently, however, it is available in the United States only as an experimental treatment. Although "cheno" appears to be free of significant side effects, its long-term safety remains to be proven. The National Cooperative Gallstone Study (NCGS), therefore, is conducting a clinical trial, sponsored by the National Institute of Arthritis, Metabolism, And Digestive Diseases, to evaluate fully the effectiveness and safety of "cheno". One thousand patients at ten medical centers in the United States are participating in this controlled trial. (This study now has all of the patients required and no additional patients are being considered.) The results should be available by Fall, 1980.

Epidemiology and Socioeconomic Impact

In the United States, estimates of gallstone prevalence are as high as 20 million, with one million new cases discovered each year. The frequency of gallstones increases with age. Among women after puberty and before menopause, gallstones occur about three times more often than among men. The incidence varies also with race and geographic location. For example, 73 percent of American Indian women and 57 percent of Swedish women have gallstones, while a much lower frequency has been found in Orientals and Africans.

Gallstones, therefore, are responsible for much pain, suffering, hospitalization, and time lost from work. In the United States, one-half million cholecystectomies are performed each year with a mortality rate of about 1 percent. Finally, the medical costs for gallstone disease in the United States have been estimated to be more than one billion dollars annually.

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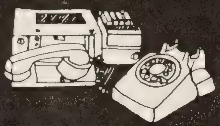

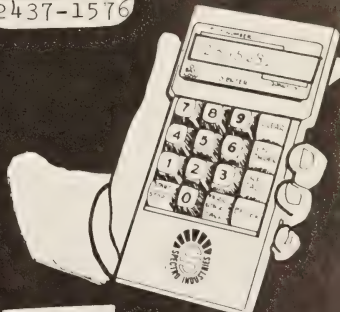

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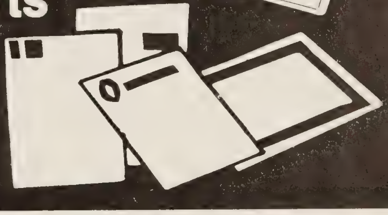

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STORE ____________________

ADDRESS ____________________

CITY ____________ STATE ____________ ZIP ____________

man vs. pain with T.N.S.

by Martin B. Mintz, R.Ph.

Presented at the 1979 Swain Seminar

PAIN — For centuries it has been man's oldest enemy. It is a signal of trauma or a malfunction in the human body. As long as man has suffered from pain, he has searched for an efficient and practical modality for its relief.

It appears that electrical neural stimulation may give the relief that man has long needed. This relatively new approach may be a medical milestone. This type of electrical nerve stimulation is given the name of Transcutaneous Electrical Nerve Stimulation or TNS which is actually the stimulation of afferent nerve fibers.

To date, even though this technique has been in use for ten years, no one can explain why it works. There are, however, several theories which are scientifically very logical.

1) The "Gate Theory," developed by Dr. Melzak and Dr. Wall simply stated is the filling of the sensory system with a pleasant sensation, therefore preventing the painful sensation from reaching the spinal cord and ultimately the brain. The fibers transmitting pleasant sensation therefore reaches the brain first, thereby blocking or closing the "gate" to any more sensation specifically to painful sensations.

2) Another theory presently under investigation is the "Enkefalin or Endorfhin Theory." According to this theory, stimulation of nerve fibers causes the thalmus in the brain to release opiate-like substances to either the site of pain, dermatomes (sensory root fields on the skin supplied with afferent root fibers), or the spinal cord. The release of these endorphins or enkefalin is believed to be the body's natural defense against pain. Therefore, TNS possibly stimulates the body's own defense against painful stimuli.

In the 1st century A.D. a physician in Rome used the electric eel and the electric sea skate. He would have the patients stand on the electric skate in the shallow sea. When the patient became numb from the knees down, the patient was taken off the sea organ and he would have relief from pain.

In 1840 in England there was a well documented case of a man having peronial nerve damage. This patient found that when he leaned against an electrified fence, allowing the fence to touch him above the knee, he obtained relief from pain for several days.

Electrified brass stools were also used. The patient, while sitting on the stool, would receive electrical stimulation followed by relief of pain.

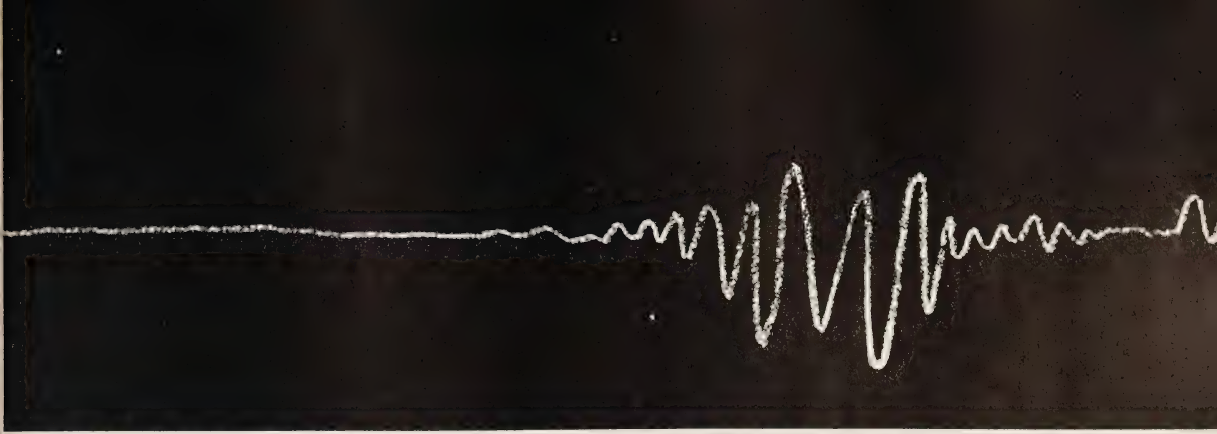
In 1970, Stimtech developed the first well-engineered stimulator. This was a battery powered device using a square wave pulse, with a controllable width and frequency. It was actually developed for screening patients who were candidates for an implantable dorsal column stimulator. It was found that the TNS device worked well enough on most of these patients that they did not have to go through surgery for the implantable stimulator. The electrodes were placed either over the pain site, the course of the periferal nerves to the area of pain, a major nerve plexus going to that area, or the corresponding dermatome.

The objective in the use of TNS is to reduce or eliminate pain. Therefore, the patient may reduce or eliminate drug usage and thereby improve his daily activities.

TNS is used in acute pain such as neuralgias, arthralgias, sprains, strains, fractures, headaches, acute episodes of chronic pain, and post-operative pain. In these acute cases there is usually an 80% success rate experienced.

TNS is also useful in chronic pain such as low back pain syndrome and cervical pain syndrome. (The combination of the two accounted for the top 10% of hospitalized patients.) Phantom limb pain and post hepatic neuralgia have an 80% success rate. TNS can also be used in causalgia, neuroma, stump pain and carcinogenic pain. The success of TNS has been repeatedly reported to be between 30% and 40% when used with chronic pain patients. TNS is not a valid modality in pain of central origin or psychogenic pain.

A study group of 200 patients at Johns Hopkins School of Medicine were treated with TNS. After one year of treatment, 50% of the patients showed good to excellent re-



sults. 88% were able to reduce drug intake and 65% reported increased functional activities. The placebo rate was the expected 8-11%.

The most recent use of TNS is in post-operative patients. Afferent nerve stimulation has been extremely successful in reducing post-operative pain. TNS has been shown to successfully reduce the pain of atelectasis (collapsed lung). The above have led to shorter hospital stays.

Dr. Donlin Long, one of the foremost authorities on TNS, recently had a herniaoraphy. He used TNS post-operatively and found the result to be the same as taking Percodan®, without the side effect of nausea as found with Percodan®.

As pharmacists we are not here solely to fill physicians' orders and dispense medication. I believe our role is also to help the patient take his medication properly, and to assist the physician in prescribing medication or any other modality which can help the patient. This may mean suggesting other health care aids (Parapharmaceuticals) along with the medications. This is especially true with pain medication. With the pharmacist's help, the patient may be able to function in as normal a manner as possible. Therefore, we may be able to reduce the intake of drugs which may otherwise hamper his daily activities.

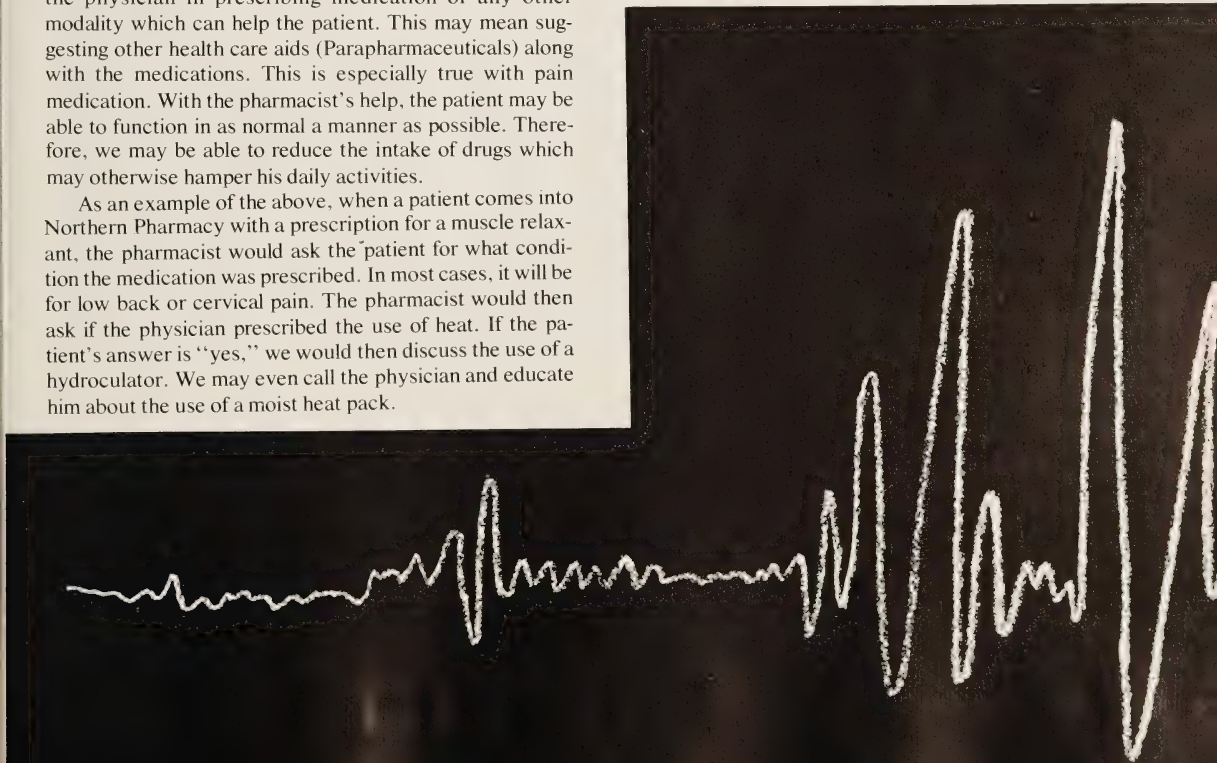
As an example of the above, when a patient comes into Northern Pharmacy with a prescription for a muscle relaxant, the pharmacist would ask the patient for what condition the medication was prescribed. In most cases, it will be for low back or cervical pain. The pharmacist would then ask if the physician prescribed the use of heat. If the patient's answer is "yes," we would then discuss the use of a hydroculator. We may even call the physician and educate him about the use of a moist heat pack.

I can not count the number of times a patient has come back and thanked us for our suggestion of the use of a hydroculator. Our suggestion made them more comfortable and shortened the length of inactivity.

When applying to Pharmacy School, I was coached to tell the interviewer that one of my reasons for wanting to be a pharmacist was that I wanted to help people. I honestly didn't realize it at the time, but now, helping people is what I really enjoy most. I would like to take this opportunity to publicly thank Dr. Peter Lamy and Dr. Ralph Shangraw for their contribution to my education and success.

In closing, I feel fortunate and lucky that I enjoy going to work each day to practice my profession — pharmacy.

pain



TROJANS
Special Summer Sale
10% off on economy size 36 packs

Specially lubricated and textured
... for her pleasure
For feeling in love...
TROJAN
RIBBED
For feeling in love
TROJAN-ENZ
WITH SPECIAL RECEPTACLE END
LUBRICATED
FOR GREATER SENSITIVITY
Extremely Sensitive
Naturally Shaped
Specially Lubricated
Golden Colored
TROJANS
3 DOZEN ROLLED LATEX CONDOMS
TROJAN-ENZ
WITH SPECIAL RECEPTACLE END
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TROJANS
3 DOZEN ROLLED LATEX CONDOMS

To boost your profits during the peak Summer sales months on condoms, Youngs is offering 10% off on five popular Trojan economy 36 packages. Our Special Summer sale runs from June 1st through the end of August...to correspond with warm weather vacations.

It includes Trojans 36's...Trojan-Enz 36's...Trojan-Enz Lubricated 36's...Trojan ribbed 36's and Trojans Plus 36's.

Remember to ask about our unique co-op advertising program to tie in with this purchase allowance. Suggest to your customers through advertising that vacation time is a smart time to take along a 36 pack.

Our representative will be more than pleased to explain our Trojan Summer Special...from the makers of Trojan condoms, the number one selling brand in drug stores.

YOUNGS DRUG PRODUCTS CORPORATION
Youngs ® P.O. Box 385, Piscataway, New Jersey 08854 © Y.D.P.C. 1979

While no contraceptive is 100% effective, Trojan brand condoms, when properly used, are highly effective against pregnancy and venereal disease.

Trojans, Trojan-Enz, Trojan and Trojans Plus are registered trademarks.

Add Another 3 Hours To Your Day . . .

without spending another minute in your store preparing, writing and calling in orders!

CUT ORDER TIME TO SECONDS WITH OUR DIRECT ORDER ENTRY SYSTEM.

Throw away the want book, stop writing those nervous little notes to yourself—Direct Order Entry is here to make your life easier!

Now, this time-consuming chore can be cut to split second efficiency with our Direct Order Entry System. In a fraction of the time you spend every day compiling and placing orders, this system can perform many functions for better control of your business.

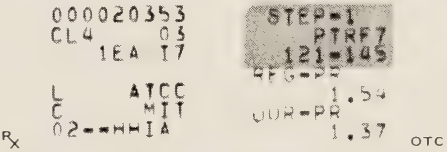
MAXIMUM PROFITABILITY

Time is money. And Direct Order Entry frees up more of your time so you can be doing the things that produce the greatest profit for you.

THE DRUG HOUSE, INC.
An Alco Standard Company

ORDER 200 ITEMS IN 1 MINUTE . . .

All order information is at your fingertips on pre-printed shelf labels for easy order input. You won't waste another moment looking up item numbers, descriptions, strengths, NDC numbers, sizes, etc. Simply press the buttons and your order is recorded on the unit's cassette tape. Then, at *your* convenience, just dial the phone and your order is quickly and accurately transmitted over ordinary telephone lines into our centralized computer. Imagine—a 200 item order can be transmitted in just 60 seconds . . . from start to finish!



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Rx

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STEP-1
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   121-145
REG-PR
      1.54
OUR-PR
      1.37
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OTC

PRICE STICKERS . . . complete with all information for placing your order.

DON'T WASTE ANOTHER MINUTE

START CUTTING CORNERS HERE.

TELL ME MORE ABOUT
DIRECT ORDER ENTRY SYSTEMS.

The Drug House, Inc.
An Alco Standard Company
600 S. 17th St., Harrisburg, Pa. 17105
Attn: W. W. Hensel, RCS Dept.

Name ______________________
Pharmacy ______________________
Address ______________________
City ____________ State ________ Zip ________
Phone Area Code (   ) ______________________

MEASURING THE RESULTS OF ADVERTISING

By **Elizabeth M. Sorbet**

Associate Professor of Marketing, University of Southern Mississippi,
Hattiesburg, Mississippi

Reprinted from Small Business Administrator
Small Marketers Aids

If you are new to the retail or service business, you may still be learning about advertising through trial and error. Perhaps you watch your competitors and run ads when they do. Or you run an ad only when you can offer a bargain.

Whether you are a newcomer or a veteran advertiser, you should always keep one question foremost in your thinking: How much good is my advertising doing?

In a small firm, neither time nor money is sufficient to engage in complicated ad-measurement methods. But even so, you can use certain rule-of-thumb devices to get a better idea than you may now have about the results of your advertising.

What Results Do You Expect?

Essentially, measuring results means comparing sales with advertising. In order to do it you have to start early in the process — before you even make up the advertisement. The question to answer is: What do you expect the advertising to do for your store?

In thinking about the kinds of results to expect, it is helpful to divide advertising into two basic kinds: immediate response advertising and attitude advertising.

Immediate response advertising is designed to cause the potential customer to buy a particular product from you within a short time — today, tomorrow, the weekend, or next week. An example of such decision-triggering ads is one that promotes regular price merchandise with immediate appeal. Other examples are ads which use price appeals in combination with clearance sales, special purchases, seasonal items (for example, white sales, Easter sales, etc.), and "family of items" purchases.

Such advertising should be checked for results daily or at the end of one week from appearance. Because all advertising has some carry-over effect, it is a good idea to check also at the end of two weeks from appearances, three weeks from appearances, and so on to insure that no opportunity for using profit-making messages is lost.

Attitude advertising is the type you use to keep your store's name and merchandise before the public. Some people think of this type as "image-building" advertising. With it, you remind people week after week about your regular merchandise or services or tell them about new or special services or policies. Such advertising should create in the minds of your customers the attitude you want them to have about your store, its merchandise, its services, and its policies.

It is your reputation builder. To some degree, all advertising should be attitude advertising.

Attitude (or image-building) advertising is harder to measure than immediate response advertising because you cannot always attribute a specific sale to it. Its sales are usually created long after the ad has appeared and are triggered by the customer some time after having seen the ad. However, you should keep in mind that there is a lead time relationship in such advertising. For example, an ad or a series of ads that announces you have the exclusive franchise for a particular brand probably starts to pay off when you begin to get customers who want that brand only and ask no questions about competing brands.

In short, attitude advertising messages linger in the minds of those who have some contact with the ad. These messages sooner or later are used by people when they decide that they will make a certain purchase.

Because the purpose of attitude advertising is spread out over an extended period of time, the measurement of results can be more leisurely. Some attitude advertising — such as a series of ads about the brands which the store carries — can be measured at the end of one month from the appearance of the ads or at the end of a campaign.

Planning for Results

Whether you are trying to measure immediate response or attitude advertising, your success will depend on how well the ads have been planned. The trick is to work out points against which you can check after customers have seen or heard the advertisement.

Certain things are basic to planning advertisements whose results can be measured. First of all, *advertise products or services that have merit in themselves.* Unless a product or service is good, few customers will make repeat purchases no matter how much advertising the store does.

Many people will not make an initial purchase of a shoddy item because of doubt or unfavorable word-of-mouth publicity. The ad that successfully sells inferior merchandise usually loses customers in the long run.

Small marketers, as a rule, *should treat their messages* seriously. Humor is risky as well as difficult to write. Be on the safe side and tell people the facts about your merchandise and services.

Another basic element in planning advertisements is to know *exactly what you wish a particular ad to accomplish.* In an immediate response ad, you want customers to come in and buy a certain item or items in the next several days. In attitude advertising, you decide what attitude you are trying to create and plan each individual ad to that end. In a small operation, the ads usually feature merchandise rather than store policies.

Plan the ad around only one idea. Each ad should have a single message. If the message needs reinforcing with other ideas, keep them in the background. If you have several important things to say, use a different ad for each one and run the ads on succeeding days or weeks.

The pointers which follow are designed to help you plan ads so they will make your store stand out consistently when people read or hear about it.

Identify your store fully and clearly. Logo-types or signatures in printed ads should be clean-lined, uncluttered, and prominently displayed. Give your address and telephone number. Radio and television announcements to identify your sponsorship should be full and as frequent as possible without interfering with the message.

Pick illustrations which are all similar in character. Graphics — that is, drawings, photos, borders, and layout — that are similar in character help people to recognize your advertising immediately.

Pick a printing type face and stick to it. Using the same type face or the same audio format on radio or television helps people to recognize your ads. Also using the same sort of type and illustrations in all ads allows you to concentrate on the message when examining changes in response to ads.

Make copy easy to read. The printed message should be broken up with white space to allow the reader to see the lines quickly.

Use coupons for direct mail advertising response as often as possible. Coupons give an immediate sales check. Key the coupon in some manner so that you can measure the response easily.

Get the audience's attention in the first five seconds of the radio and TV commercial. Also, get your main message in the first sentence if possible.

Tests for Immediate Response Ads

In weighing the results of your *immediate* response advertisements the following devices should be helpful:

Coupons brought in. Usually these coupons represent sales of the product. When the coupons represent requests for additional information or contact with a salesman, were enough leads obtained to pay for the ad? If the coupon is dated, you can determine the number of returns for the first, second, and third weeks.

Requests by phone or letter referring to the ad. A "hidden offer" can cause people to call or write. Include — for example, in the middle of a paragraph — a statement that on request the product or additional information will be supplied. Results should be checked over a one-week through six-months or 12-months period because this type ad may have considerable carry-over effect.

Split runs by newspapers. Prepare two ads (different in some way you would like to test) and run them on the same day. Identify the ads — in the message or with a coded coupon — so you can tell them apart. Ask customers to bring in the ad or coupon. When you place the ad, ask the newspaper to give you a split run — that is: to print "ad A" in part of its press run and "ad B" in the rest of the run. Count the responses to each ad.

Sales made of particular item. If the ad is on a bargain or limited-time offer, you can consider that sales at the end of one week, two weeks, three weeks, and four weeks came from the ad. You may need to make a judgment as to how many sales came from display and personal selling.

Check store traffic. An important function of advertising is to build store traffic which results in purchases of items that are not advertised. Pilot studies show, for example, that many customers who are brought to the store by an ad for a blouse also bought a handbag. Some bought the bag in addition to the blouse, others instead of the blouse.

You may be able to use a local college or high school distributive education class to check store traffic. Class members could interview customers as they leave the store to determine: (1) which advertised items they bought, (2) what other items they bought, and (3) what they shopped for but did not buy.

Testing Attitude Advertising

When advertising is spread out over a selling season or several seasons, part of the measurement job is keeping records. Your aim is comparing records of ads and sales for an extended time.

An easy way to set up a file is by marking the date of appearance on tear sheets of newspaper ads, log reports of radio and television ads, and copies of direct mail ads. The file may be broken down into monthly, quarterly, or semiannual blocks. By recording the sales of the advertised items on each ad or log, you can make comparisons

In attitude (or image-building) advertising, the individual ads are building blocks, so to speak, which make up your advertising over a selling season. The problem is trying to measure each ad and the effects of all of the ads taken together.

One approach is making your comparisons on a weekly basis. If you run an ad, for example, each week, at the end of the first week after the ad appears, compare that week's sales with sales for the same week a year ago. At the end of the *second* week, compare your sales with those of the end of the first week as well as year-ago figures.

At the end of the *third* week, one month, three months, six months, and 12 months from the appearance of the ad, repeat the process even though additional ads may have appeared in the meantime. For each of these ads, you will also make the same type of comparisons. You will, of course, be measuring the "momentum" of all of your ads as well as the results of a single ad.

After a time, you probably will be able to estimate how much of the results are due to the individual ad and how much to the momentum of all of your advertising. You may then make changes in specific details of the ad to increase response.

Barb Newman spent 8 years as a community pharmacist. Now she is putting this valuable experience to work as an Upjohn associate product manager. She knows the problems pharmacists have with many packaging and dispensing formats, and with certain promotions. This knowledge helps her promote existing products and bring new drugs to market.

"I am still a community pharmacist, at heart. I know the long hours, dedication, and the tremendous store of drug information they absorb and share so unselfishly." Barb is one of 376 pharmacists at Upjohn who are proud of their role as members of the health care team — and their partnership with your side of the counter. **Upjohn**

EIGHT YEARS ON YOUR SIDE OF THE COUNTER HELPS BARBARA NEWMAN DO HER JOB BETTER.

©The Upjohn Company, Kalamazoo, Michigan 49001

When comparing sales increases over some preceding period, allowances must be made for situations that are not normal. For example, your experience may be that rain on the day an ad appears cuts its pulling power by 50 percent. Similarly, advertising response will be affected by the fact that your customers work in a factory that is out on strike.

Some of the techniques which you can use for keeping on top of and improving attitude advertising follow:

Repeat

Repeat an ad. If response to an ad is good, run it — without change — two or three times and check the responses of each appearance against previous appearances.

Keep repeating the process. Much advertising loses effectiveness because the advertiser doesn't keep reminding people. Repetition helps increase knowledge of, and interest in, the product. You can soon estimate how often you should repeat each ad — exactly or with minor changes.

Analyze all ads in relation to response. Divide ads into at least two classes: high-response ads and low-response ads. Then look for differences between the two classes.

The time the ad was run may be responsible for a particular response level. Other factors, however, may be just as much or more influential than time. Consider the feature subject used in the illustration, persons shown, activities shown, types of merchandise, settings or backgrounds, different colors used. Also consider the message and how well it was expressed. Did the copy stick to the theme? Or did it wander? If slogans were used, did they help make the point?

Graphic elements may be important. Check to see which response category is associated with the presence of coupons, borders, display lines, small or incidental illustrations. Check response in relation to any variation in the way each appears. Compare any difference in type size and design or the boldness of the type.

Emphasis on brand names should also be checked. Price figures should be analyzed. If price lines are involved either in the ad or in the merchandise line of which the advertised product is a part, you should consider them also.

Check the size of the ad. It usually has a bearing on response. As a general rule, the larger the ad, the greater the response.

Try to see a pattern of dominance. Your analysis of high-and-low response ads, may show that certain details — such as certain picture subjects — make the difference between a high or low response. Try to find the combinations which work best for your firm and merchandise.

Note changes occurring over time. A small retailer should never take a winning combination for granted. There is no single formula that will insure high response ads every time. Advertising changes. Therefore, you should watch the ads of others to see what changes are occurring. Continue to analyze your own ads, make small changes occasionally, and note any variations in response.

Listen to what people say about your ads. In doing so, try to discover the mental framework within which any comment about your ad was made. Then try to find points which reinforce believability and a feeling that your product fulfills some wish or need.

However, you should not be misled by what people say. An ad can cause a great deal of comment and bring in practically no sales. An ad may be so beautiful or clever that as far as the customer is concerned the sales message is lost.

When You Use Several Media

When your ads appear simultaneously in different media — such as the newspaper, on radio and television, in direct mail pieces, and as handbills — you should try to evaluate the relative effectiveness of each. You can check one printed medium against the other by using companion (the same or almost identical) ads in the newspaper, direct mail, and handbills.

You can make the job of analyzing and comparing results from among the media easier by varying your copy — the message. Your ad copy, thus, becomes the means of identifying your ad response.

You can check broadcast media — radio and TV — by slanting your message. Suppose, for example, that you advertise an item at 20 percent reduction. Your radio or TV ad might say something like this. "Come in and tell us you want this product at 20 percent off."

You can compare these responses with results from your "20 percent off" newspaper ad. Require the customer to bring in the newspaper ad — or a coupon from it.

Some of the ways to vary the copy are: a combination of the brand name with a word or some words indicating the product type; picture variations; size variations; and color variations. You might use the last three to check your printed ads against each other as well as against your radio and TV ads.

Be careful that the copy variation is not so great that a different impression is received from each medium. Here you would, in effect, have two different ads.

Summary

Because his budget is limited, the owner-manager of a small retail or service firm must see that his advertising does the job he intends it to do. Measuring the results on a continuing basis can help him to see that his ads keep the store's name before the public and contribute to increasing sales.

Planning is important. Before he can evaluate results, the owner-manager has to know what purpose he expects the ad, or ads, to accomplish. This *Aid* gives pointers on planning ads and discusses several devices which can be used to compare advertising and sales.

USP DRUG PRODUCT PROBLEMS REPORT*

by the USP Convention, Inc.

12601 Twinbrook Parkway, Rockville, MD 20852 Tel. (301) 881-0666

Pharmacists to be Correctly Reimbursed

A pharmacist wrote to the USP that the state Medical Assistance Program was constantly underpaying on prescriptions for a 3 oz. tube of vaginal gel. She had determined that the label listed the contents as 85 gm and this was used by pharmacists to indicate the quantity filled on the claim form. However, the state computer listed 90 gm as the metric equivalent of the 3 ounce tube and would accordingly only reimburse for a percentage of the AWP (i.e. based on only 85 gm being supplied). The manufacturer contacted the state Medical Assistance Program and arranged to have the computer changed to read 85 gm as the size of the unit package so that pharmacists would be adequately reimbursed.

Formaldehyde Withdrawn

Brown precipitate in a Formaldehyde Solution USP was the concern of an Ohio medical center pharmacist. A sample was collected and tested by an FDA district office laboratory and the potency was found to be below the USP limit of 37%. The manufacturer withdrew the lot from the market.

Unlabeled Product Shipped

A Florida hospital pharmacist received several boxes of a protein powder labeled with only the initials of the product and the flavor. He telephoned USP to report this possible labeling violation. When the film contacted him as a result of his report, he indicated that it would be detrimental to the cancer patients using the product for supplemental nutritional therapy if he were to return the boxes to the firm. For this reason the firm issued labels for the pharmacist to adhere to the boxes as a field correction. The unlabeled merchandise had been shipped in error from the warehouse and the firm took action to enlarge the area where unlabeled merchandise is stored in order to further segregate it from the labeled product.

Expiration Dates Made Consistent

A new York hospital pharmacist noted that the expiration date stamped on the bottom of bottles of Mineral Oil was a given month and year, while the shipping case listed the first day of the same given month and year. He cited the conflict between this and the USP definition of expiration dating: "Where an expiration date is stated only in terms of the month and the year, it is a representation that the intended expiration date is the last day of the stated month." The company confirmed the problem and took corrective actions to drop the day from the expiration date so that both the bottle and shipping label would carry consistent dating.

Droppers Identified

A pharmacist from an Ohio hospital suggested that the droppers supplied with two different concentrate preparations should reflect both the name of the product and the strength. The concern was that the droppers might be mixed and cause erroneous dosage, especially in those institutions which prepackage the medications and provide the original droppers for administration. In its reply to the reporter, the company stated that it was in the process of making changes to the dropper which will take these comments and recommendations into consideration.

Precipitate

"Snowflake-like" particulate matter in bottles of an alkalinizing solution, reported by a California hospital pharmacist, led to a recall of the lot. The firm reassayed its reserve samples and found that carboxy-methylcellulose was precipitating and issued a recall.

Insert Revised

A Poison Center pharmacist noticed that the instructions in the package insert for treatment of an overdose of a benzodiazepine compound included advice which was not currently accepted treatment for CNS depressants. The manufacturer informed the pharmacist of their agreement with his comments. The review and revision of the package insert was undertaken by the medical affairs office at the firm.

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*This report covers some of the recalls, product improvements, and explanations to which the Drug Product Problem Reporting Program has contributed. The product and company names are omitted; and no reflection on any specific manufacturer, distributor, reporter, or product is intended or should be inferred from the case studies. It is hoped that these examples will indicate to the reader some of the problem areas where he or she may want to be alert; e.g.: package insert information, package designs, labeling, unusual or improper drug product appearance.

Loose Labels

A pharmacist in Texas reported that three cases of an antacid suspension did not have the labels attached. Although the labels were found in the cases, they would not stick to the bottles. The firm notified its warehouse to examine their stock and to return any bad stock. All bottles without labels would be relabeled by the firm.

Unsuitable Closures

A firm had repackaged an antibacterial product into bottles of 100 tablets with a child resistant closure; however, a pharmacist reported that the lids snapped open from any position and were opening during shipment. Aside from the apparent lack of child resistance, the pharmacist was concerned about the drug's stability. The firm responded that it had been unaware that the bottles would not withstand shipment. The firm further indicated that the 100 size was not regularly stocked and had been packed only as an extra customer service. In the future, orders for 100 would probably not be accepted or in the event of acceptance, the packaging would be more suitable.

Metal Compressed

A California hospital pharmacist telephoned USP to report pieces of metal compressed into urinary tract anti-infective tablets. The FDA collected samples from the hospital and made them available to the manufacturing firm for examination. The firm determined that the metal pieces may have come from the stainless steel screens used for oscillation in the manufacturing process. A new step was added to the manufacturing directions as a future preventative measure: the screens are to be examined for breakage just prior to and just after use. If any breakage is observed, the batch will be quarantined for further examination.

Short Count

After receiving complaints from patients of shortages in bottles of prednisone 5 mg tablets, a New York state pharmacist counted two bottles of 100 he had in stock and found 82 and 93 tablets respectively. This report was investigated and the FDA inspection at the company revealed that when an electronic filling machine was used for uncoated tablets, the dust from the tablets interfered with the electronic filling eye causing it to shut off. The firm corrected this problem by using de-dusting equipment with the machine.

Reaction Causes Subpotency

A povidone-iodine aerosol spray was found to be subpotent due to a chemical reaction between the iodine complex and the metal ball contained in the aerosol valve assembly. Four DPPR reports from pharmacists noting a white precipitate and a lighter than normal color of the solution alerted the FDA and the firm to the problem. The firm recalled the lots involved.

Legend Added

A report from a Texas pharmacist brought it to the attention of the distributor and the FDA that the Federal Legend was missing on a prescription only estrogen product. The firm explained that the warning panel had apparently been deleted in error by the printer when the label had been revised. Adhesive labels containing the required federal prescription legend were added to the bottles as a field correction by the firm.

Pharmacist Spurs Redesign

A pharmacist in an Indiana hospital telephoned USP suggesting that a box with a fold-in cover be developed for the packaging of antihypertensive ampuls because, in his opinion, the current packaging was awkward. He was notified by the firm that the package development and marketing departments had agreed to redesign the box and the new package would be available in approximately six months.

Ingredients Added

A Texas pharmacist reported that the label of Flexible Collodion USP did not list either as an ingredient. The FDA examined a label and noted that the label also lacked the names and quantities of other ingredients. During an inspection of the firm conducted as follow-up to this report, the FDA determined that the firm had corrected the label upon receipt of this DPPR report. The names and quantities of all ingredients were now to be on the label.

Warning Added

The packaging of a 10 ml prefilled syringe of Magnesium Sulfate Injection, USP, 500 mg per ml did not specifically warn against IV administration of this concentrated drug. The Mississippi pharmacist filing the report noted that a bolus dose of the contents of the syringe would be fatal. The firm changed the packaging to include, "For IM Use Unless Diluted" after the name of the product and informed the reporter that "this significant improvement has been instituted as a direct result of your recent observation."

Wrong Insert

A South Dakota pharmacist submitted a package insert which listed codeine phosphate as one of the ingredients in a plain promethazine expectorant. He noted in his report that this ingredient did not agree with the bottle label and that there should be no codeine present in this product. Follow-up by a district office of the FDA revealed various lots were released with this labeling error. The manufacturer recalled the lots involved. In addition, the FDA noted deficiencies in the label control and handling of inserts at the firm and issued a regulatory letter based on these GMP deficiencies.

Short Fill

A New Jersey pharmacist compared two vials of sterile powder of Penicillin G Potassium for injection and found that one vial was underfilled. Following an investigation by the FDA the firm indicated the lot involved would be recalled.

PRESCRIPTION
FOR PEACE OF MIND:

You want the peace of mind that comes from the protection of American Druggists' Insurance. It assures you of prompt, 100% claims settlement for fire, theft, liability, malpractice. We know the pharmacists' problems best, because A.D.I. was founded by pharmacists, in 1906, for pharmacists. Let Mayer and Steinberg give you a free evaluation of your insurance needs.

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MAYER AND STEINBERG INC.

General Insurance Agents and Brokers

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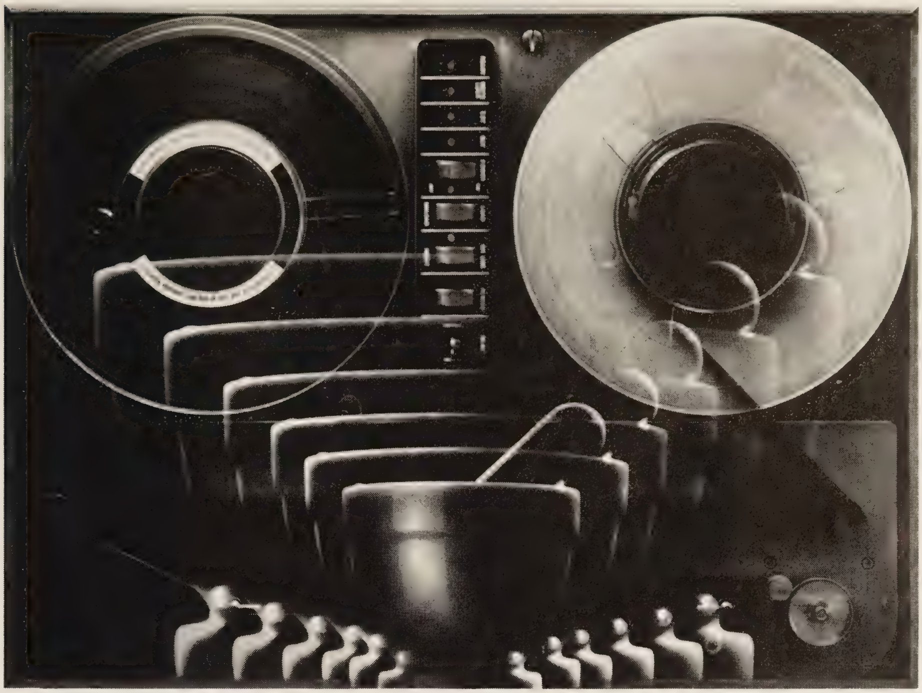
LOOK WHAT'S BECOME OF THE MORTAR AND PESTLE.



It's where pharmacy is today. And tomorrow's pharmacists are learning about it right now.

Change is constant in the pharmaceutical industry. New classes of drugs are being developed. Computer technology is expanding horizons from research to drug synthesis to final manufacture. New precision equipment is helping to produce consistently reliable products. New marketing techniques are evolving. And new government regulations are being proposed which could affect the way pharmacy is practiced.

These changes are taking place at a rapid pace—so rapid, in fact, that the Pharmaceutical Manufacturers Association has created a unique educational program to help keep pharmacy school faculty, students and practicing pharmacists aware of current industry practices.

THE PMA PHARMACY FACULTY PROGRAM. REACHING THE PROFESSION THROUGH THE PHARMACY PROFESSOR.

Now in its fourth year, the PMA Pharmacy Faculty Program is an invitation to educators to see firsthand what's going on in the pharmaceutical industry. Participants in the program spend two weeks at the facilities of a major pharmaceutical firm, taking part in a series of daily conferences with its scientists and executives. During this time, they get an overview of industry, technology, and approaches associated with research and development, marketing and distribution, production and quality control.

These faculty members can then bring back the knowledge gained to their students in the classroom, and to you, the practicing pharmacist, in continuing education programs.

The PMA Pharmacy Faculty Program. It's one of the things we're doing to help keep the profession up to date on industry operations.

For more information write to: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005, Attention: Dr. John S. Ruggiero.

PMA

Contributing to pharmacy education.

PHARMACEUTICAL MANUFACTURERS ASSOCIATION/1155 FIFTEENTH STREET, N.W./WASHINGTON, D.C. 20005

Medication Checklist to Help Patients Help Themselves

A "Personal Drug Information Checklist," designed to help patients learn about their drug therapy, is now available from two large health-related organizations.

Developed by the American Red Cross (ARC) and the American Pharmaceutical Association (APhA), the checklist will be used by pharmacists and other health professionals to explain drug therapy, while patients will use the list to ask questions about their drug therapy.

Studies have shown that patient understanding and compliance with drug therapy increase when verbal instructions are reinforced in writing. The ARC-APhA form recognizes this fact and enables practitioners to provide patients with the specific information they need about their own drug therapy.

The form contains a column for basic data, including the patient's name and names of his or her pharmacist and physician. In addition to serving as an aid to consultation, the Personal Drug Information Checklist also provides a record of drug therapy for the patient who takes more than one medication. There is room for information on as many as five drugs. The drug information includes the name of the drug, the purpose for taking it, instructions on how it should be administered, possible side effects and special instructions.

The Nursing and Health Services office of ARC, working with the APhA Academy of Pharmacy Practice Section on Long Term Care, assumed responsibility for adapting a previous APhA medication information checklist to its present form.

ARC-APhA cooperation assures that both health professionals and the public will have ready access to the Checklist. Persons desiring to use the Checklist or who wish more information should contact their nearest Red Cross chapter or the APhA.

APhA is pleased to offer the Checklist to members in a novel fashion — by providing camera-ready photostats from which practitioners can obtain precisely the number of checklists they desire. Photostats for the checklists are available for $3.00 from the APhA order desk, 2215 Constitution Avenue, N.W., Washington, DC 20037.

PERSONAL DRUG
INFORMATION
CHECKLIST

Prescription No. ______________________

Name of drug ______________________

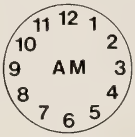
Purpose for taking
this drug is ______________________

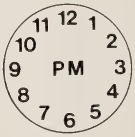
Prescription can be renewed ______________ times

Take ______________ every ______________
(Amount) (How Often)

By ______________ for ______________
(Route or Method) (How Long)

Circle hours the drug is to be taken.





Physical description of the drug ______________________

____

This drug should
not be taken with ______________________

This drug should
be taken with ______________________

Possible side effects ______________________

____

Contact your physician or pharmacist
if the following side effects occur ______________________

____

Special instructions ______________________

____

____

Congratulations to 1979 University of Maryland Pharmacy School Graduates

Dimitrios Apostolou
Vahram Bedrossian
Ruth Marie Bendler
Joyce Lynn Bish
Ruth Sammel Blatt
John Earl Braaten
Barry Michael Bress
Cynthia Joan Brown
Janice Ann Butler
Judith Ann Chioli
David Donald Christ
James C. Christopher
Yong Joo Chung
James Nicholas Cianos
Elizabeth Hedlund Corder
Cynthia Ann Cousin
Cheryl Lynne Cowan
Randy Lee Crispen
Vikas Bhalchandra Dane
E. Ruth Danielson
David Mark DeCillis
Tommy Wayne Der
Harry Gerard DeSantis
Rajiv Ratan Dewan
Marilyn Jean D'Ippolito
Stephen Lee Disharoon
Karen Becker Disney
Mary Jane Eckert
Ross Steven Engel
Evelyn Reaud Farinas
Madeline V. Feinberg
Dennis Eugene Ferguson
John Philip Fink
Gary Flax
Ronald L. Frush
Lisa Lynn Gillespie
Brenda Esther Golden
Bruce Myron Gordon
Jefferson Jordan Gregory
Judy Beatrice Gundel
Douglas B. Haggerty
Stephen Larry Handelman
Joslyn Renee Hart
Erkan Hassan
Thien-Chu Bui Ho
Julie Marie Hutchinson
Deborah Jane King
Suzanne Klies
Juliana S. Lee
Frederick Joseph Mack
Richard Lawrence Mainzer
Mark Mallach
Peter Jerry Manso
Diana Marie Martin-Yingling
Francis Louis Marzella, Jr.
Suzanne Rose Mayer
Richard Allan Mills
Yuet Lan Mok
Kim Marie McFarlin
Lynda Hill Oderda
William Cooper Oghoro
Nora Orise Olomu
Keith Edward Patterson
James Lee Pellenbarg
Abraham Pelta
Robert Joseph Phelan
Susan Yvonne Pollack
John Frederick Riley
Jeffrey Alan Rosen
David Michael Russo
Robert Edward Schaener
Kenneth Stephen Schneider
Arthur Schwartz
Carla Neumister Snuggs
Robert Killian Stegman
Harry Albert Svrjcek, Jr.
Ernest David Testerman
Frank Theodore Tetoski
Mary Tommasello**
Long Kim Tran
Thu-Van T. Tran
Denise Virginia Turner
Eugene Allen Vincent
Van Thanh VuThi
Jolanta Weinrub
Teresa Ann Wheelous
Gary Joseph Wirth
Connie L. Wolfgang
Pamela Frances Yavorsky
Kiat Huat Yeo
Mary Magdalene Ziomek

**Graduated January 1979

PHARM. D.

Bonnie Jean Brinkman
Ira L. Fedder
Flenn Edward Feroli
Deborah Lee Mintzer
Marianne Jane Pariseau
Katherine Pozoulakis

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Some 1979 Committee Volunteers in Action

M.Ph.A. Board of Trustees Meeting

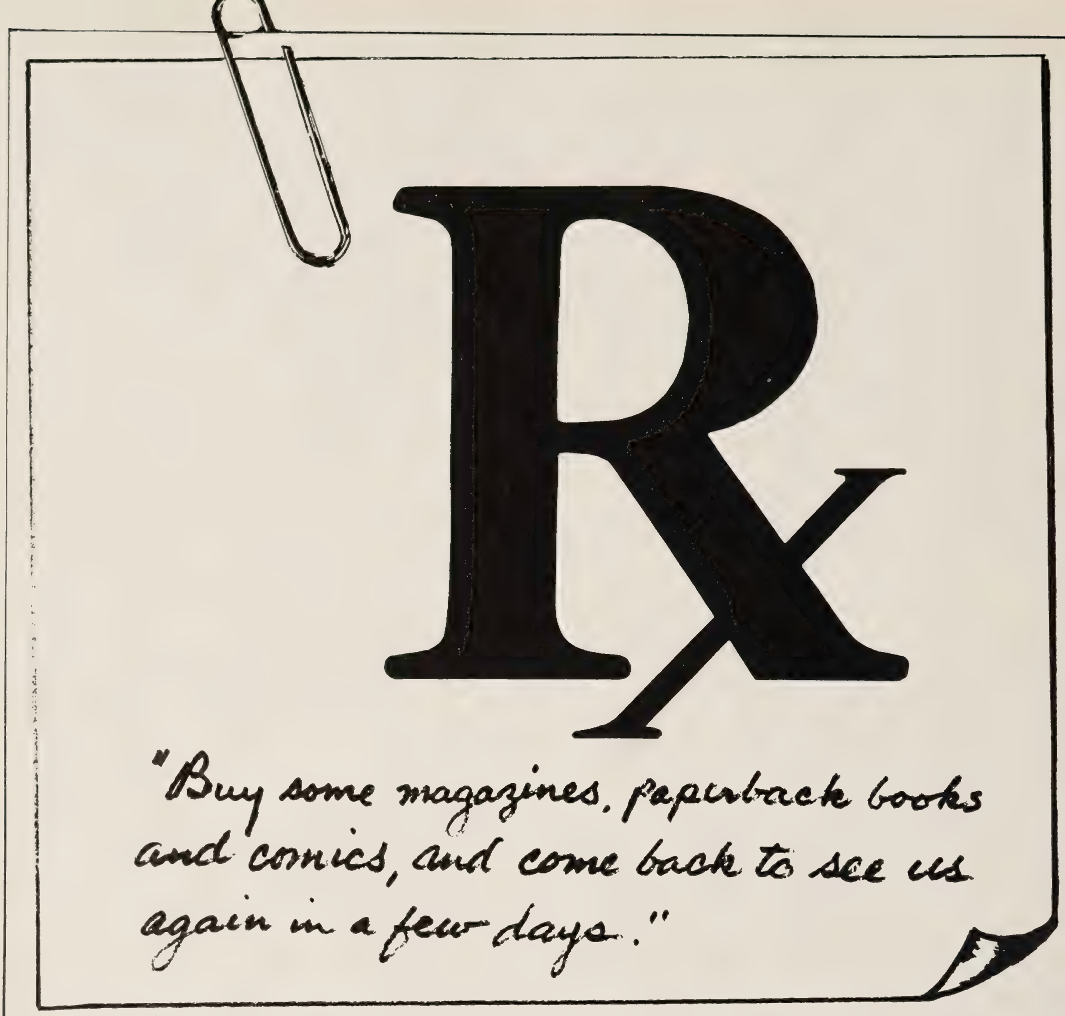
Some members of the BMPA Executive Committee

Maryland Commission on Women in Pharmacy

The Committee on Professional Practices

Industry Relations Committee

Membership Committee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That's the prescription you can fill again and again for your customers if you have a fully stocked magazine department.

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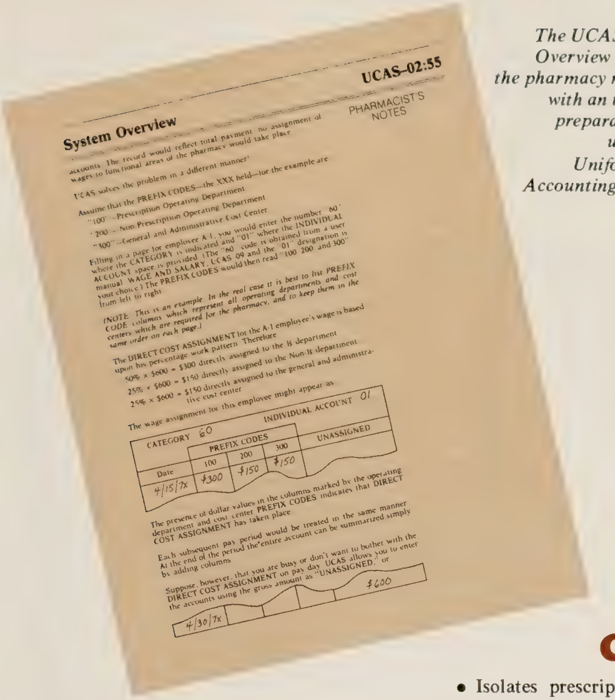


UCAS–02:55

System Overview

PHARMACIST'S NOTES

accounts The record would reflect total payment no assignment of wages to functional areas of the pharmacy would take place

UCAS solves the problem in a different manner'

Assume that the PREFIX CODES—the XXX field—for the example are

"100" —Prescription Operating Department
"200" —Non Prescription Operating Department
"300" —General and Administrative Cost Center

Filling in a page for employee A-1, you would enter the number "60" where the CATEGORY is indicated and "01" where the INDIVIDUAL ACCOUNT space is provided (The "60" code is obtained from a user manual WAGE AND SALARY, UCAS 09 and the "01" designation is your choice) The PREFIX CODES would then read "100 200 and 300" from left to right

(*NOTE This is an example In the real case it is best to list PREFIX CODE columns which represent all operating departments and cost centers which are required for the pharmacy, and to keep them in the same order on each page.*)

The DIRECT COST ASSIGNMENT for the A-1 employee's wage is based upon his percentage work pattern Therefore

50% × $600 = $300 directly assigned to the ℞ department
25% × $600 = $150 directly assigned to the Non-℞ department
25% × $600 = $150 directly assigned to the general and administrative cost center

The wage assignment for this employee might appear as

CATEGORY 60

INDIVIDUAL ACCOUNT 01

	PREFIX CODES			UNASSIGNED
Date	100	200	300	
4/15/7x	$300	$150	$150	

The presence of dollar values in the columns marked by the operating department and cost center PREFIX CODES indicates that DIRECT COST ASSIGNMENT has taken place

Each subsequent pay period would be treated in the same manner At the end of the period the entire account can be summarized simply by adding columns

Suppose, however, that you are busy or don't want to bother with the DIRECT COST ASSIGNMENT on pay day UCAS allows you to enter the accounts using the gross amount as "UNASSIGNED," or

4/30/7x				$600

The UCAS System Overview provides the pharmacy manager with an in-depth preparation for using the Uniform Cost Accounting System.

The Uniform Cost Accounting System for Pharmacy is the most expensively produced publication ever offered to pharmacists by the American Pharmaceutical Association. The handsome three-ring binder has been manufactured with especially durable materials. Elliptical rings and locking boosters also provide security and special treatment for each user manual, while individually designed and coded tab dividers enable you to find any of the system's 600-plus pages with a flick of the wrist. Most important, of course, is the quality of information you'll find in UCAS. APhA Pharmacy Management Institute director Bruce A. Siecker, one of this country's top pharmacy management experts, has written UCAS so that pharmacists can both understand and implement the system. *UCAS is an accounting system written for pharmacists.* Given what it can do for your pharmacy, UCAS is a bargain at any price.

The Uniform Cost Accounting System is the most powerful management resource ever developed for pharmacy.

That's no idle boast.

The 35 individual user manuals in UCAS — each devoted to a specific aspect of management—provide the pharmacy manager with innovative, comprehensive, flexible and uniform methods to capture each economic event in the pharmacy—in the precise amount of detail desired by the pharmacy manager.

Most important, UCAS focuses on the prescription operating department and yields down-to-the-penny data on the pharmacy's cost to dispense prescriptions and provide pharmaceutical service. Just as important, UCAS will tell pharmacy managers if and to what extent other operations are subsidizing pharmaceutical service. UCAS won't make decisions for you, but the system makes clear when you need to take decisive management action.

UNRAVEL COSTS AND SURVIVE. if that sounds like a good prescription for your pharmacy, UCAS is just the medicine you need.

What UCAS can do for You!

- Isolates prescription operating department costs down-to-the-penny.
- Enables you to utilize what you pay your accountant for—"clinical," client-oriented accounting.
- Presents you with uniform, indisputable data on the cost of providing pharmaceutical service.
- Reveals all tax-deductible expenses in your pharmacy.
- Permits you to make management decisions based on the best possible data and sets of alternatives.
- Best of all, UCAS is self-sustaining. Once you have the system in place, it does its job for you each and every business day.

Yes! Please rush me the Uniform Cost Accounting System for Pharmacy via the United Parcel Service. *(Please allow 3-5 weeks for delivery.)*

Regular UCAS price $150; **Special Introductory Price: $125; $100 for APhA members.** *To obtain the APhA member rate, attach a mailing label from* American Pharmacy, APhA Weekly *or another APhA publication to this order.*

I wish to purchase UCAS in the following manner:

☐ Payment enclosed. ☐ Please bill me. ☐ Check here if APhA member.

BankAmericard (VISA) Number ____________________ Exp. Date ______

Master Charge Card Number ____________________ Exp. Date ______

Issuing Bank No. ____________________

NAME ____________________

ADDRESS ____________________

CITY ____________________ STATE __________ ZIP __________

Please send your order to the:

APhA Order Desk
2215 Constitution Avenue, N.W.
Washington, D.C. 20037

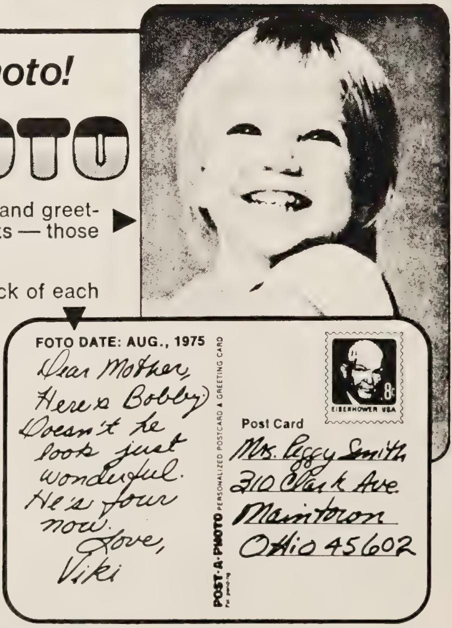
SPECIAL INTRODUCTORY OFFER
Valid until October 1, 1979

UCAS-1

Australians Visit MPhA Office

Photo courtesy Paramount Photo Service

Robert Davies and Keith Craver from the Pharmacy Guild of Australia visited the Association's office to discuss the M.Ph.A.'s efforts in the area of third party prescription drug programs. In Australia, the government negotiates with the Guild for reimbursement under the national program. They were most interested in the recent Myers and Stauffer survey on dispensing a medicaid prescription in Maryland.



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Dear Mother,
Here's Bobby!
Doesn't he
look just
wonderful.
He's four
now.
Love,
Viki

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LETTERS

Mr. David W. Banta
Executive Director
Maryland Pharmaceutical Association
650 West Lombard Street
Baltimore, Maryland 21201

Dear Mr. Banta:

Abbott Laboratories is pleased to announce the availability of the Emergency Health Care Series, an extension of our ongoing Continuing Education Program for retail and hospital pharmacists.

This program was developed by The Massachusetts College of Pharmacy and consists of two booklets, each containing two articles on various aspects of Emergency Health Care. A self-assessment quiz is enclosed with each article. Continuing Education credit has been applied for in the 19 states that currently require mandatory continuing education for relicensure.

The Emergency Health Care Series is being distributed on a bi-monthly basis through our Professional Medical Representatives primarily in those states that require mandatory continuing education for pharmacy relicensure. Since your state does not require mandatory continuing education, copies of the Emergency Health Care Series can be requested by writing:

Mr. David W. Kruger, Manager
Trade Relations, D-355
Abbott Laboratories
North Chicago, IL 60064

We sincerely appreciate your effort in notifying the pharmacists in your state of the availability of this exciting new Continuing Education Program.

Sincerely,
David W. Kruger

Dear Dave:

Please distribute the following memo to your members and the local Pharmaceutical Associations.

The Board of Pharmacy has expressed its concern with the similarity in appearance between tablets of Lasix 40 mgm and Lanonxin 0.25 mgm. Since these two drugs are often prescribed together we would like to alert all pharmacists to advise patients when receiving both medications to avoid error by *not* combining these two drugs in one container. The possibility of doubling the dose on one drug while eliminating the other could present a very real and serious problem to the patient. Please remember it is your professional obligation to assure that the patient properly uses his/her medication.

Sincerely,

Paul Freiman, Secretary
Maryland Board of Pharmacy

Dear Dave:

The subject of our last Industrial Relations Committee meeting dealt with the availability of NDA's and ANDA's for products currently being distributed in the State of Maryland. I would like to offer the following as an editorial which I hope you would consider printing in a future issue of the Maryland Pharmacist. The content would be as follows:

> Picture this situation. Your pharmacy tech who has been working for you for years announces that he is opening up a pharmacy across the street from you. Naturally you would cry "foul," because he does not have the training or the state and federal licenses to practice pharmacy, yet he leaves and opens his pharmacy. You would probably pursue every legal means to close him down and would think poorly of people who left you for him. Because he has had no license fees to pay or education to pay for, he could conceivably charge less than you currently charge for the same product.
>
> I can empathize with your indignation and applaud your outrage because my industry is going through just such a struggle. We are faced with companies who produce products which are not licensed with the FDA and have no NDA or ANDA registration. If you relate our industry to your pharmacy and the unlicensed product to a pharmacy tech's store, the analogy becomes clear. You can appreciate our indignation at the support for this concept given by some pharmacists when they buy these unlicensed products.
>
> The practice of pharmacy has always been based on the assurance by the pharmacist that his/her patients are receiving only the finest quality products to cure the particular need. The step away from this assurance becomes another step toward government restraints concerning the products that can be dispensed by pharmacists. This could lead toward all types of ramifications, none of which would add to the desired assurances of the product dispensed.
>
> There is a way to prevent the quality assurance lag. Insist on seeing the NDA or ANDA for all products that you buy. (Not the NDC). The fact that a company has an NDA or an ANDA will at least give you the assurance that it has been registered with the Federal Government and that the company has registered its manufacturing procedures which will meet the established government standards.
>
> The reputation of pharmacy has been built over years and years of dedicated service in dispensing of quality products. I feel that the least you should demand of your suppliers is that they allow you to dispense these high quality products in the future. Demand nothing less than a registered and proven product which would be good enough for your patients or your family.

Dave, I think this expresses my personal opinion about the current NDA or ANDA registration of products dispensed in Maryland. I hope you would consider putting this in your publication.

Yours very truly,

Alexander B. Credle, Jr.
District Sales Manager
102 S. Fox Road
Sterling, VA 22170

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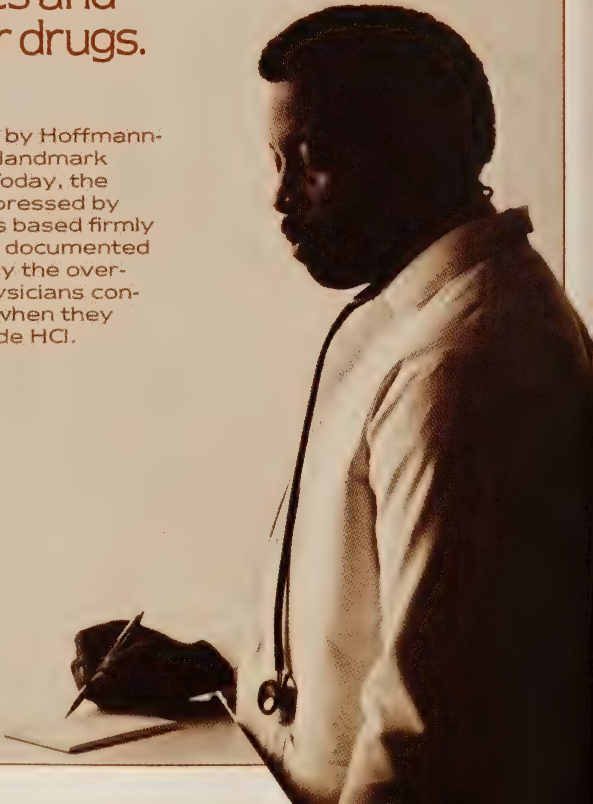

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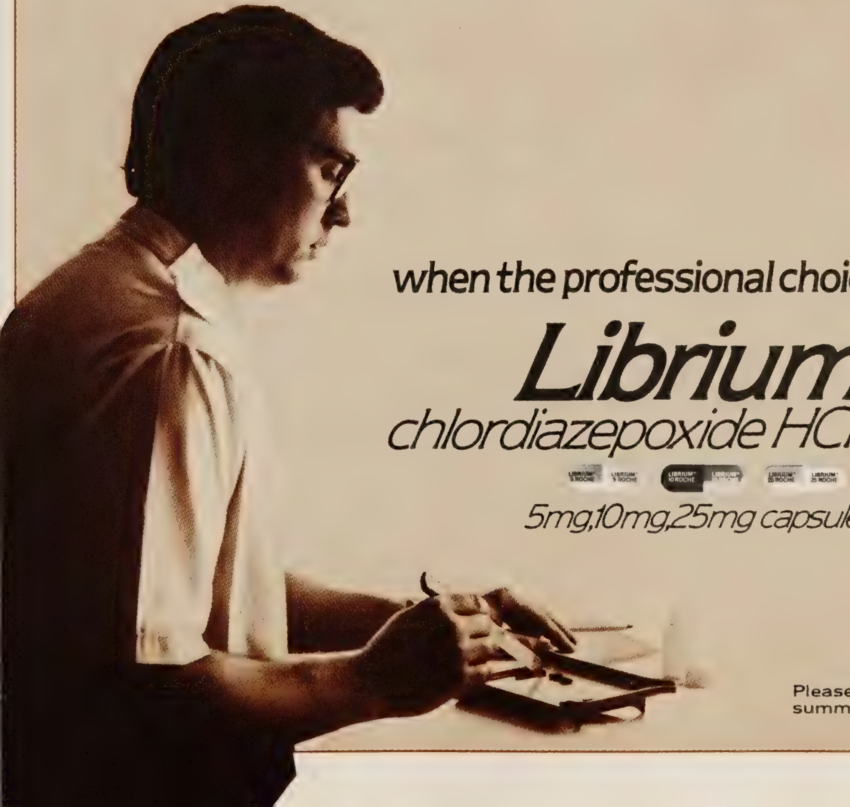

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LIBRIUM 25 ROCHE

5mg,10mg,25mg capsules

Please see next page for summary of product information.

Librium® 5mg, 10mg, 25mg capsules
chlordiazepoxide HCl/Roche

Please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states. Efficacy beyond four months not established by systematic clinical studies. Periodic reassessment of therapy recommended

Contraindications: Patients with known hypersensitivity to the drug

Warnings: Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

> ***Usage in Pregnancy:*** **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral–Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d.* *Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10. Libritabs® (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable

ROCHE
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Alumni and friends of the Baltimore City Campus of the University may obtain Presidents Club and other recognition for their bequest provision or establishment of a deferred gift by contacting the Office of Development and Planning, University of Maryland at Baltimore, 14-021, Howard Hall Tower, Baltimore, Maryland 21201. (301) 528-7398.

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calendar

June 20 — Balto. Veteran Druggists, Annual Crabfeast, Rodowskas's shore
June 22-24 — MSHP Seminar — Hershey, Pa.
June 24-28 — MPhA CONVENTION — TAMIMENT, Pennsylvania
July 30/Aug. 14 — MPhA TRIP TO AUSTRIA, GERMANY & SWITZERLAND. CALL OFFICE FOR LAST MINUTE RESERVATIONS.
Sept. 11 — Alumni Assn C.E. Program — Ethics in Pharmacy
Oct. 15-18 — NARD Convention — Las Vegas, Nevada
Nov. 4 — Alumni Association Oyster Roast, Overlea Hall

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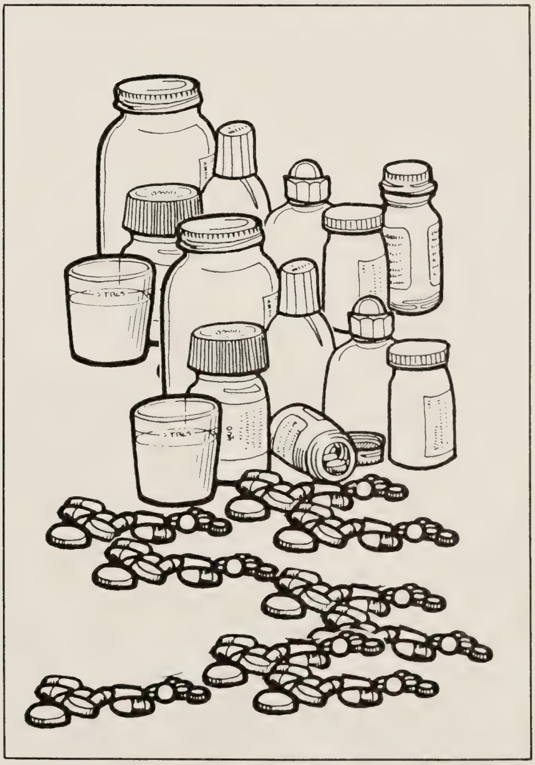

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THE
MARYLAND
PHARMACIST

Official Journal of
The Maryland
Pharmaceutical
Association

JULY, 1979
VOL. 55
NO. 7

Prazepam

–E. Robert Feroli, Pharm.D.

Consumer Attitudes about Pharmacists and Their Services

–Jack M. Newcomb, R.Ph.

Graduation Pictures

Winner, 1979 Sandoz
Medical Journalism Award
for State Pharmacy Journals

THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET
BALTIMORE MARYLAND 21201
TELEPHONE 301/727-0746

JULY 1979 VOL. 55 NO. 7

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President's Message

The visibility of the Pharmacist as a health care professional will yet determine the outcome of many of the struggles we will endure in the immediate future. I believe that Pharmacists must participate in local government and civic affairs. This grass roots involvement will help identify the pharmacist as a powerful and beneficial force within our society. Not only will we assist those who can benefit from our expertise, but we will also be building a rapport with government and civic leaders. Through this involvement we can overcome many of our current problems and help to prevent the emergence of new ones.

As an example, I was especially pleased to see how many of our colleagues became involved in the recent crisis with Baltimore City and the Blue Cross and Blue Shield contract. Also, recently we have developed excellent cooperation with the chain interests in Maryland. When there have been issues confronting pharmacy, chains and independents have responded on an emergency basis. This kind of involvement and visibility can only help others realize that we are strong.

In this same spirit, we must continue to battle against those forces that threaten our very economic survival. Each Pharmacist must make a decision in the area of third party programs. We must not be forced out of business because of low dispensing fees and excessive paperwork. We have a right to practice our profession, serve the public health and at the same time, make a fair living. Ultimately, our very survival rests on our public visibility and ability to cooperate with one another.

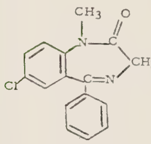
Ronald A Lubman
RONALD LUBMAN

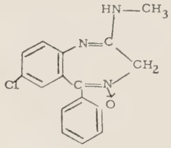
PRAZEPAM

by

E. Robert Feroli, Pharm.D.
Drug Information Pharmacist
The Johns Hopkins Hospital

Benzodiazepines are among the most widely prescribed drugs in the United States today. This is largely attributable to their efficacy in the treatment of anxiety and insomnia and also to their wide therapeutic index making them relatively safe drugs to use. This situation has resulted in the introduction into the market of many benzodiazepine derivatives which all claim to offer some special advantage over the others. It is important, therefore, to critically look at what is actually known about the difference between these drugs. In this review, prazepam (Verstran®, Warner-Chilcott) will be compared with other benzodiazepines in an attempt to find clinically significant differences.


diazepam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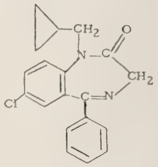
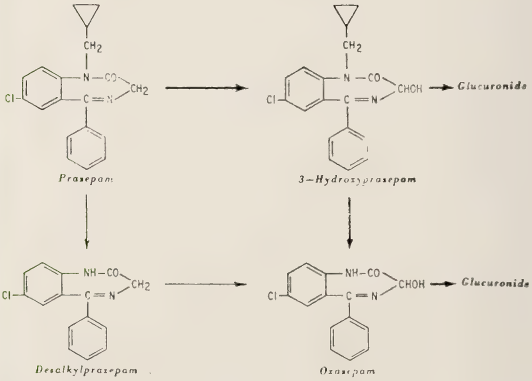

prazepam

PRAZEPAM KINETICS

Most published pharmacokinetics studies of prazepam are from the Warner-Lambert Research Institute.

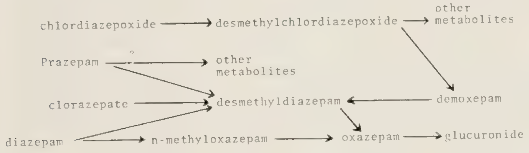
In the first study, published in 1970,[1] 25mg. of C^{14} labeled prazepam was administered to 5 healthy volunteers. Radioactivity in the blood was measured and found to increase slowly, reaching a peak at six hours. Using chemical extraction techniques and thin layer chromatography, three metabolites, 3-hydroxyprazepam, oxazepam glucuronide, and desalkylprazepam (same as desmethyldiazepam), were identified in the urine as well as several unknown metabolic fractions.

From this data the following "unique" metabolic pathway was proposed:



In 1971, the above study was rewritten and published in another journal.[2] Later in another study, 10mg. of C^{14} labeled prazepam was administered before and after a 7 day course of prazepam 10mg. T.I.D. These results were published in 1973[3] and the conclusions were similar to the earlier study. In a fourth study,[4] the procedure just described was used to determine the half-life of total radioactivity when 10mg. of C^{14} labeled prazepam was administered after the seventh day of prazepam therapy. This half-life was found to be 70 hrs. (range 45-105 hrs.).

In a recent preliminary report, Greenblatt and Shader[5] presented data to contradict the metabolic pathway proposed for prazepam. Twenty milligrams of prazepam was administered to fasting volunteers and blood samples were drawn to detect metabolites using electron-capture gas-liquid chromatography. Results were similar in all volunteers; in contrast to the previous studies, neither 3-hydroxyprazepam nor oxazepam were detected. Desmethyldiazepam (desalkylprazepam), however, was found to increase slowly reaching a peak at 6-9 hrs. then falling gradually over 7 days, which is consistent with the long half-life reported elsewhere for this compound (50-99 hrs.). [6, 12, 13] Desmethyldiazepam, proposed by Greenblatt to be the major active metabolite of prazepam, is also a major metabolite of clorazepate and diazepam and a minor metabolite of chlordiazepoxide.



ADAPTED FROM: Tyrer P.: The Benzodiazepine Bonanza. Lancet 2:709-710, 1974.

CONCLUSION

1. Prazepam is absorbed slowly and peak metabolite levels are found about 6 hours after oral administration.
2. The metabolic fate is not clear at this time, however, it appears to be metabolized primarily to desmethyldiazepam.

CLINICAL STUDIES

Comparison of prazepam with other benzodiazepines is limited.

1. Shaffer[7] et. al. studied postwithdrawal anxiety in alcoholics. They found that 40-80mg./day of prazepam was more effective than placebo but less effective than 50-125mg./day of chlordiazepoxide. Both drugs were given on a T.I.D. schedule.
2. In the treatment of anxiety in outpatients, Dunlop[8] measured clinical response to prazepam, chlordiazepoxide, and placebo. Clinical response was evaluated using 12 target symptoms, for example, anxious mood, intellectual capacity, respiratory symptoms, tension, etc. There was no significant difference between prazepam and chlordiazepoxide, and both were significantly better than placebo. At the conclusion of the study an appraisal of overall clinical response was rated on a four point scale: excellent, good, fair, or no change. There was a significantly higher frequency of good to excellent responses for prazepam (96%) than for chlordiazepoxide (65%) or placebo (19%). However, criteria for this four point scale were not provided, making it difficult for the reader to evaluate the clinical significance of these findings.
3. Kingston, et. al.[9] also studied anxious outpatients and found no significant difference between prazepam and chlordiazepoxide.
4. Silver, et. al.[10] conducted a four week, double-blind, placebo-controlled study of prazepam and chlordiazepoxide on thirty psychoneurotic outpatients. The results seem to indicate that in over-all effectiveness, the chlordiazepoxide group showed improvement after two weeks, while over-all improvement with prazepam occurred only after four weeks. Among the individual symptoms (somatic, anxiety, and autonomic reactions), significant improvement occurred only in the prazepam-treated group. The only side effect reported was impotence associated with increased assertiveness in two male patients treated with prazepam.

CONCLUSION

Clinical superiority of prazepam over other benzodiazepines (specifically chlordiazepoxide) has not been clearly demonstrated.

ONCE DAILY DOSING

Prazepam has been shown to be effective in the treatment of anxiety when given as a single bedtime[11] dose and the long half-life of its active metabolite, desalkylprazepam (alias desmethyldiazepam), is in keeping with this finding.

The fact that prazepam has a long duration of action attributable to its active metabolite, however, is certainly not a unique feature. Desmethyldiazepam is also the major metabolite of diazepam and clorazepate. Chlordiazepoxide is metabolized to desmethyldiazepam (minor metabolite) and also to demoxepam (t½ = 37 hrs.) and desoxydemoxepam (t½ = 44 hrs.)[14] both of which are active.

DISCUSSION

Studies showing clinical efficacy of once daily dosing have only been published for prazepam; however, since diazepam, chlordiazepoxide and clorazepate also have active metabolites with half-lives greater than 24 hours, it seems likely that these compounds would also be efficacious if given once daily.

The sedation resulting from a relatively large single daily dose might be less for prazepam due to its slower rate of absorption when compared with diazepam and chlordiazepoxide.

	TIME TO REACH PEAK LEVELS AFTER PO DOSE
PRAZEPAM	6 hrs.[1, 5]
CHLORDIAZEPOXIDE	1 hr.[14]
DIAZEPAM	1 hr.[13]

Giving the daily dose at bedtime, however, would be expected to nullify this potential difference.

In summary, the relatively new benzodiazepine, prazepam, has not been shown to offer any unique advantages to the clinicians' benzodiazepine armamentarium.

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calendar

July 30/Aug. 14 — MPhA TRIP TO AUSTRIA, GERMANY & SWITZERLAND. CALL OFFICE FOR LAST MINUTE RESERVATIONS.

Aug. 19 — Upper Bay Crab Feast

Sept. 11 — Alumni Assn C.E. Program — Ethics in Pharmacy

Oct. 15-18 — NARD Convention — Las Vegas, Nevada

Nov. 4 — Alumni Association Oyster Roast, Overlea Hall

The Joint Practices Committee The Evolution of a Concept

Optimal health care and effective health planning require interaction and cooperative efforts between all health care providers. The reorganization in 1976 of the Joint Practices Committee is the latest in a series of endeavors of the Medical and Chirurgical Faculty to open avenues of communication between all allied professions. The restructuring allows representatives of all health and social professions to serve on the Committee and consider areas of mutuality of practice in the provision of quality health care. It is our view that the Committee provides a forum to discuss areas of mutual concern, to consider problems common to health and social professions, and to work toward satisfactory solutions of these problems. To our knowledge, it is the first time representatives of all health and social fields have served together as a united group to pursue a common goal of providing quality health care.

The following individuals are currently serving on the Committee representing the health and social professions indicated:

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Elliott R. Fishel, M.D.
REGISTERED NURSES
Mary McCann Spicer, *Chairperson*
Glenda Roberts
LICENSED PRACTICAL NURSES
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Dr. Willard Parson
Dr. Stanley W. McGhee
PODIATRISTS
Dr. Neil M. Scheffler
Larry I. Shane
OPTOMETRISTS
Marvin L. Getz

During the last few years, the Committee's activities have involved: 1) discussion of the administration of physical therapy by health professionals other than physical therapists when prohibited by law, and the growing need to clearly define areas of practice among the various professional fields, 2) the problems resulting from the use of multi-prescription blanks by physicians, 3) the Committee was instrumental in establishing a mechanism to provide emergency pharmaceutical services for the general public following the discontinuation of 24-hour pharmaceutical services in the Baltimore area, 4) the Committee reviewed and accepted the Maryland Hospital Association's "Guidelines for the Utilization of Physician's Assistants in Hospitals," 5) at the request of the Maryland Health Planning Agency, reviewed and accepted a position paper concerning a study on nursing manpower in Maryland, submitted by the Health Manpower Committee in response to recommendations of the Maryland Commission for Nursing, and 6) guests have been invited to attend meetings to express their concerns which relate to areas of practice within the health and social professions.

The Committee is most willing to consider and respond to correspondence from individuals and/or Boards concerning matters specific to their areas of responsibility, and can be contacted at the Faculty office, 1211 Cathedral Street, Baltimore, Md. 21201, or by calling the Faculty office, 301-539-0872.

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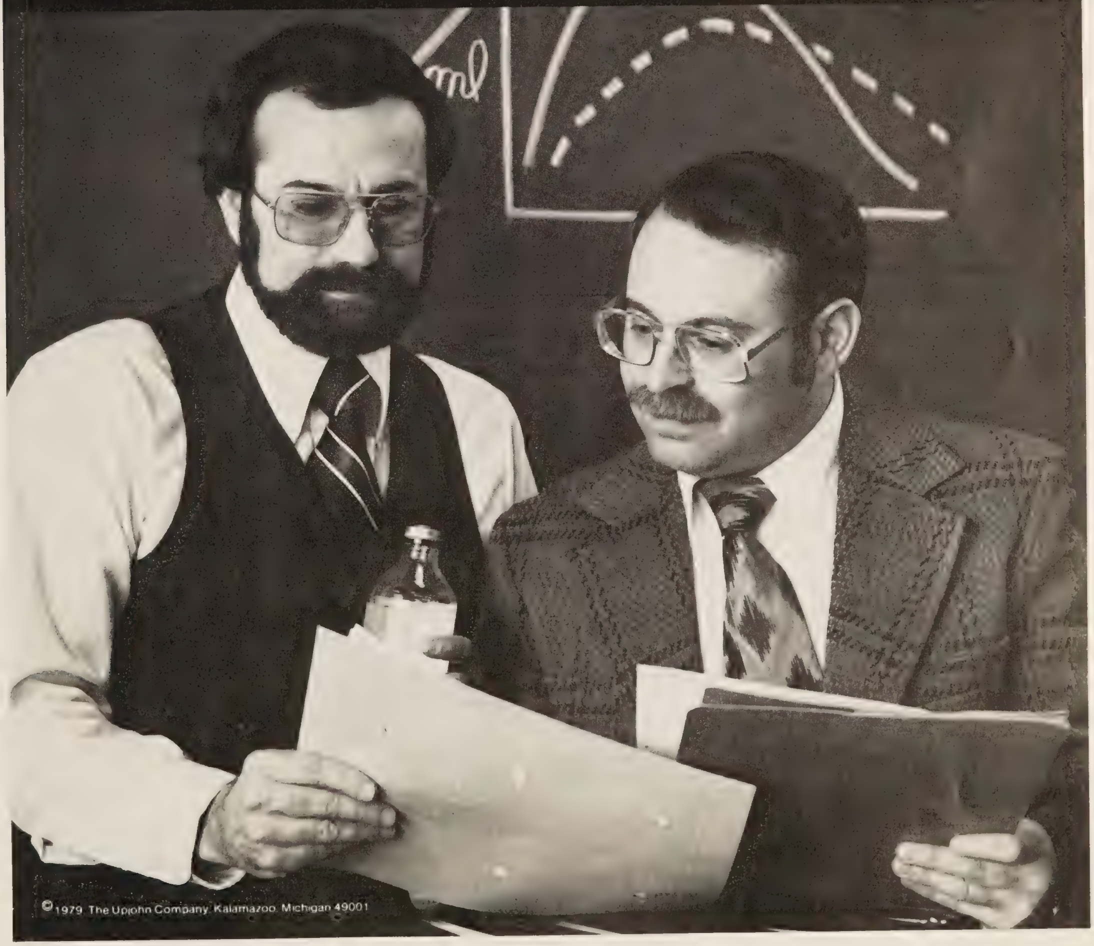

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Consumer Attitudes About Pharmacists and Their Services

by

Jack M. Newcomb, R.Ph.
Manager, Pharmacy and Trade Relations
The Upjohn Company

Presented
to the
National Council of State Pharmaceutical Association Executives

Today I would like to share with you the results of a national survey of customer attitudes about pharmacists and their services. In 1976 Upjohn sponsored the baseline national survey; now we have the opportunity to compare what customers thought in our bicentennial year with current opinions and impressions.

At the outset I want to issue a mild caveat: interpreting surveys can be a tricky, and highly biased undertaking. The problem of interpreting data reminds me of a friend who came home from a doctor's appointment and informed her husband that the doctor had told her that it was essential for her to go to Miami Beach, Aspen and buy herself a mink coat. The husband was alarmed by this prescription, so he called the doctor. "What's all this malarkey about Miami Beach, Aspen and a fur coat?" The doctor replied: "I recommended to your wife a regimen of frequent baths, plenty of fresh air, and to be sure to dress in warm clothes."

My point is that communication is clouded by personal and professional bias. We all have the tendency to see what we want to see. In reporting the data from this study I'll draw conclusions as I see them, but they may differ from the way you view the data. On a grander scale, I believe that most of the data are pretty clear and their implications for pharmacists fairly apparent.

As we go through the survey it will be useful to keep the concept of "viewpoint" in focus; each of us has a tendency to look out for "Number One." But in a service business it is essential to keep the other fellow's view clearly in sight.

The point is that we in industry and in the practice of pharmacy must really *want* to help and really be *committed* to helping people solve their own problems.

In order to help people solve their problems, we have to know what those problems are. Surveys such as this, are but one of many useful tools that can be employed to help us identify such problems.

The Upjohn Company began its "Pharmacy Image Survey" program in 1975; since then we've done two national surveys as well as surveys in 15 states. Our objective in taking these many surveys was one of our many programs to assist pharmacy. Naturally, there would be a report card of pharmacy and pharmaceutical services as expressed by the consumer, but of greater importance was to hopefully identify opportunities for pharmacy as perceived by the customer. Over a four-year period we've acquired a prodigious amount of data on customer attitudes. Like the fabled Mr. Pallidin, we "have slide show, will travel." The surveys and presentations are part of our professional service program. Obviously the surveys are of some use in our own marketing efforts, but they are, in our view, most useful to the practicing pharmacist.

The survey technique provides a kind of organized, formal feedback that cannot be obtained in the environment of the community pharmacy. Let's turn now to the survey and see what pharmacy customers in the United States, think about the services they receive.

This national survey was conducted this past December and January by Market Facts Inc. for the Upjohn Company. More than one thousand people were interviewed by telephone. In order to qualify for the survey, a respondent had to have had a prescription filled in a community pharmacy within the past six months and could not have anyone in the immediate family who is a pharmacist, physician or nurse. Because of these restrictions we don't have a true, statistically-pure random sample, but we do have a relatively good cross section of current users of pharmacy services. As an aside, I should point out that 74% of the survey respondents had a prescription filled within one month of their interview.

**EDUCATION/INCOME
PROFILE OF U.S. RESPONDENTS
1978**

		ANNUAL FAMILY INCOME			
EDUCATION	TOTAL	UNDER $7,500	$7,500-$15,000	$15,000-$25,000	$25,000 & OVER
Grade school or less	7%	25%	8%	3%	2%
Some high school	9	15	12	7	2
Completed high school	33	31	40	36	27
Some college	25	18	24	26	28
Completed college	25	10	16	28	41
Refused	1	1	—	—	—
	100%	100%	100%	100%	100%

Let's begin by taking a quick look at some of the characteristics of our respondents. Here we see a correlation between education and income. As one might expect, there is a positive relationship between educational background and income for respondents in this national survey. As educational level increases, so too does personal income. More than one-third of the people in the lowest income category had not completed high school, while more than two-thirds of the folks in the highest income category had at least some college experience.

AGE/INCOME PROFILE OF U.S. RESPONDENTS 1978

AGE	1970 U.S. CENSUS	TOTAL	ANNUAL FAMILY INCOME UNDER $7,500	$7,500-$15,000	$15,000-$25,000	$25,000 & OVER
18-34	36.4%	35%	15%	40%	45%	36%
35-49	26.3	26	15	17	29	36
50-59	15.8	18	17	19	18	17
60 & over	21.5	21	53	24	8	11
	100.0%	100%	100%	100%	100%	100%

In this survey, more than half of the families with an income of less than $7,500/year had a head of the household who was 60 or older. This compares with only 11% for families with a yearly income over $25,000. In some of the exhibits to follow, respondents will be classified on the basis of family income. Keep in mind that, in general, the lower income families tend to *less educated* and older; higher income families tend to be better educated and middle-aged.

While no effort was made to establish age quotas in order to match known population parameters, the sample was quite representative of the nation's population in terms of age. This can be pointed out by comparing the national census data in the first column with the "total" column in age/income table. The closeness of this data either confirms the census, or demonstrates the classic luck of the draw in selecting respondents. Either way, the correlation with the latest census is very close.

On the lighter side, I recently ran across an advertisement in a journal telling people that the 1910 census is now available to the public. That's government efficiency in peak form!

NUMBER OF PRESCRIPTION MEDICATIONS CURRENTLY TAKEN BY PATIENT AND FAMILY UNITED STATES

	1978	1976
One or more	62%	67%
Two or more	41	42
Three or more	24	23
Four or more	15	14
Five or more	9	7
Nine or more	1	1

Prescription drug usage by families in the U.S. has not changed substantially from 1976 to 1978. The proportions in both columns are very similar.

As indicated earlier 74% of the survey respondents had a prescription dispensed within one month prior to their interview. Thus, their answers should be very meaningful and not subject to many problems resulting from inaccurate recall.

Note here that almost one of four families is taking three or more prescription medicines. This is a pretty substantial percentage. For our purposes this degree of consumption should alert us to the potential for compliance problems.

PATIENTS WHO HAVE HAD A PRESCRIPTION DISPENSED AND THEN DID NOT TAKE ALL OF THE MEDICATION

	US 1978
Have never failed to take all of the medication	29%
Have failed to take all of the medication	71
Recovered from condition	
Didn't need it	
Experienced side effects/reactions	
Physician instructed patient to discontinue	
	100%

This question was not included in the previous U.S. survey so no comparison can be drawn. Seventy-one percent of the respondents in the U.S. in 1978 reported that at some time, they had failed to use all of the medication prescribed for them. This finding gives some hint of the extent of the non-compliance problem in this country. The most frequent reasons given by people who had failed to take all of a prescribed medication were "recovered from condition" (59%) and "didn't need it" (25%). Only five percent of the patients said they discontinued a medication because their doctor told them to stop. Self termination of a therapeutic regimen can have serious consequences, especially when an infection or a chronic condition such as hypertension is being treated. The importance of the pharmacist in reinforcing each and every dosage regimen cannot be overemphasized. The professional opportunity here is apparent. The pharmacist is frequently the last member of the health team to talk to patients before they go home to take their medicine. In the lingo of traffic law you have the "last clear chance" to extend some influence on the patients' behavior.

PATIENTS WHO HAVE LEFT PRESCRIPTIONS UNFILLED

	US 1978	US 1976
Have never left prescriptions unfilled	64%	68%
Have left prescriptions unfilled	35	30
Didn't need		
Cost		
Lost prescription		
Can't remember	1	2
	100%	100%

Non-compliance can occur because the patient takes medicine improperly, *or* because the patient doesn't bother to have the prescription filled. In our survey we discovered that approximately one-third of the respondents had at some time neglected to get a prescription dispensed. This proportion has changed significantly from 1976 to 1978, with a larger segment of the population leaving prescriptions unfilled in 1978. Reasons given? The patient will feel that the prescription was not needed, it cost too much, or the prescription was lost. This trend is not encouraging; in individual cases the results can be tragic.

Could there be a program developed by pharmacy or pharmacy and medicine directed to the patient regarding the great importance of having the prescription filled and taken? I believe it is an opportunity for pharmacists.

HOW PRESCRIPTIONS ARE PAID
UNITED STATES

	1978	1976
Privately	61%	71%
Company Insurance	21	14
Union Insurance	6	5
Medicaid	5	4
Other	7	6
	100%	100%

cont'd

One reason given for having not gotten a prescription filled was "cost". Let's see, then, how prescriptions are paid for in the United States.

The proportion of the respondents who pay for prescriptions out of their private funds *decreased* between 1976 and 1978. This comes as no surprise with the trend toward more third party involvement in prescription drug reimbursement. Nearly 40% of the respondents in 1978 reported some kind of third party involvement in prescription reimbursement. This compares with nearly 30% just two years earlier.

On the basis of this data "cost" as a negative factor seems unsubstantiated. But what if we examine how prescriptions are paid for by income classification?

HOW PRESCRIPTIONS ARE PAID
UNITED STATES
1978

	TOTAL	UNDER $7,500	$7,500-$15,000	$15,000-$25,000	$25,000 & OVER
Privately	61%	66%	66%	56%	57%
Company Insurance	21	8	12	27	32
Union Insurance	6	4	3	8	6
Medicaid	5	14	8	2	1
Other	7	8	11	7	4
	100%	100%	100%	100%	100%

The two lowest income categories had the highest proportion of respondents who paid their entire prescription drug expense out of their own pockets.

As a result, these lower income groups probably are most likely to be attracted to prescription drug sources which emphasize price at the expense of personal service and attention. Thus the segment that could benefit the most from pharmacist consultations because of their higher drug utilization and lack of education has the greatest economic incentive to use less personal drug sources, such as mail-order pharmacies. Remember, the less educated and lower income individuals are the least likely to ask questions regarding their medication from either pharmacist or physician. A strong effort by the pharmacist to communicate with these individuals might provide an incentive to patronize that pharmacy.

While we don't have data to show which income groups were likely to leave prescriptions unfilled because of cost pressures, our guess would be the lowest income groups because two of three of these folks are paying for their own prescriptions directly. Bear in mind, too, that these two income groups tend to be elderly — thus, the 14% Medicaid figure for the lowest income category.

This is the "age of inflation." Every professional pollster identifies inflation as public enemy number one for American citizens in every income bracket. To quote a March report of the Roper organization: "The mood of America is not buoyant." This recent report shows that nine different categories of investments are down.

People are bewildered. OPEC raises crude prices 9 percent and pump prices for gasoline go up three cents per gallon. Only one person in four has a good understanding of why the dollar's value rises and falls. Few have any idea about what might be done to control inflation.

According to the Roper reports:

- Nearly three of four Americans are following closely which prices are going up and down, and by how much; and
- 63% of the American public is "most concerned" about inflation and high prices.

Another Roper finding also is of interest. In the past six months, 4 of 10 consumers had a problem with a product or service. But, few voiced their complaint. They simply stopped buying a particular brand or shopping at a particular store. This trend has now held up for two years. When people have a complaint they change their shopping habits — they'd rather switch than fight.

Inflation. It's exerting extreme pressure on all of us. Service prices are at an historic high. A couple of weeks ago I called a plumber to my house for a minor repair. His visit lasted seven minutes. He presented me with a bill for $25. I told him that the best attorney in town charged $50 *an hour.* "I know," the plumber said. "That's what I used to get when I was an attorney."

But, inflation is no laughing matter. It's affecting the basic consumption patterns of our country. Let's look now at a series of questions and slides that show how health services and health product consumption patterns have been modified by consumers themselves in their own war on inflation.

RESPONDENTS WHO IN LAST YEAR HAVE ECONOMIZED BY NOT SEEING THEIR DOCTOR WHEN THEY WANTED TO
UNITED STATES
1978

	TOTAL	UNDER $7,500	$7,500-$15,000	$15,000-$25,000	$25,000 & OVER
Have had to economize	21%	17%	26%	22%	21%
Have not economized	77	82	72	77	78
No answer	2	1	2	1	1
	100%	100%	100%	100%	100%

The second lowest income category was the group where the greatest proportion of the respondents reported having to economize by not visiting their doctor. It is possible the lowest group had to economize less because their physician visits are covered by government aid programs; or they simply may not feel a need to visit their own physician very often.

It is very likely the people who do not visit their physician for consultation about a condition which would have involved a physician visit in the past will seek advice and/or an OTC medication for the condition from their pharmacist. When one considers that the people most likely to seek alternatives to visiting the physician are people from lower income families who tend to be less educated, the necessity

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7312-1359
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100         QTY 1
NDC 68-0123-61
           2437-1576
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NDC    68
0123-61
  5D70
 1 032
2437-1576
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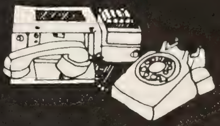

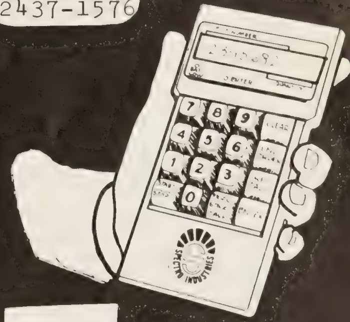

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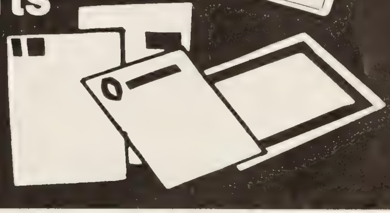

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of pharmacist consulting with the patient becomes more obvious. This puts increased responsibility on the pharmacist to communicate and to make the appropriate recommendations.

RESPONDENTS WHO IN LAST YEAR HAVE ECONOMIZED BY NOT BUYING AN OVER-THE-COUNTER MEDICINE WHEN THEY WANTED TO

UNITED STATES
1978

	TOTAL	UNDER $7,500	$7,500-$15,000	$15,000-$25,000	$25,000 & OVER
Have had to economize	14%	12%	16%	18%	11%
Have not economized	84	83	82	81	88
No answer	2	5	2	1	1
	100%	100%	100%	100%	100%

Larger proportions of the two middle income groups had attempted to economize in this manner. I can't explain this pattern.

RESPONDENTS WHO IN LAST YEAR HAVE ECONOMIZED BY NOT SEEING THEIR DENTIST WHEN THEY WANTED TO

UNITED STATES
1978

	TOTAL	UNDER $7,500	$7,500-$15,000	$15,000-$25,000	$25,000 & OVER
Have had to economize	20%	22%	24%	21%	15%
Have not economized	80	77	74	79	84
No answer	—	1	2	—	1
	100%	100%	100%	100%	100%

Here the highest income group had the lowest proportion of respondents (15%) who delayed or had to forego visits to their dentist for economic reasons. This seems to make sense.

RESPONDENTS WHO IN LAST YEAR HAVE ECONOMIZED BY NOT HAVING A PRESCRIPTION DISPENSED

	US 1978	US 1976
Have had to economize	12%	11%
Have not economized	88	88
No answer	—	1
	100%	100%

The difference between the two U.S. samples in 1976 and 1978 in terms of the proportion who had economized by not having a prescription dispensed was not statistically significant. However, the proportion of respondents who have attempted to economize by not seeing their physician (21%) was approximately 50% larger than the proportion who have not purchased OTC drug products when they wanted to (14%) or had not had a prescription dispensed (12%). Thus, U.S. residents are more likely to forego visits to their physician than they are to forego purchasing prescription or non-prescription medication. Once a person has visited a physician and received a prescription, it is quite likely they will obtain the prescription medication. This is reasonable since if one has made the effort to contact their doctor and received a prescription order, to then save the cost of the prescription could be perceived as a false economy.

RESPONDENTS WHO IN LAST YEAR HAVE ECONOMIZED BY NOT HAVING A PRESCRIPTION DISPENSED

UNITED STATES
1978

	TOTAL	UNDER $7,500	$7,500-$15,000	$15,000-$25,000	$25,000 & OVER
Have had to economize	12%	15%	16%	11%	9%
Have not economized	88	85	84	89	91
No answer	—	—	—	—	—
	100%	100%	100%	100%	100%

Lower income group are more likely to attempt to economize by not having a prescription dispensed. Not surprising since we saw earlier that it is the group that proportionately pays more out-of-pocket for drugs than the higher income categories. Now let's turn to the actual purchasing patterns of the survey respondents.

NUMBER OF PHARMACIES WHERE PRESCRIPTIONS ARE OBTAINED

	US 1978	US 1976
One	73%	75%
Two	20	20
Three	5	4
Four or more	2	1
	100%	100%

Apparently, there has been no major change in pharmacy patronage patterns from 1976 to 1978. Approximately three-quarters of the respondents purchase their prescriptions predominantly at one pharmacy while the other one-quarter patronized two or three. This figure should be reassuring to your membership. It may be a slight over reaction on the part of pharmacists after dealing with a few shoppers — feeling that many shop looking for a price. Over 90% used no more than two and three-quarters used but one.

While such data on patronage is interesting, it yields little insight into customers' *reasons* for shopping a particular establishment. To obtain this information we asked the respondents "why?"

MOST IMPORTANT REASONS FOR HAVING PRESCRIPTIONS DISPENSED AT PARTICULAR PHARMACY

	US 1978	US 1976
Close to home or work	45%	46%
Price of medicine	24	23
Reliable and friendly service	16	16
Other reasons	15	15
Convenient store hours		
Delivery service		
Variety of merchandise available		
Parking convenience		
Charge account if needed		
	100%	100%

In all of the surveys conducted to date, with the exception of Idaho, we have found that proximity to residence or work is the most frequently given reason for patronizing a particular pharmacy. This also was true in this most recent

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U.S. survey, with 45% of the respondents stating this as the principal reason. The second most frequent major patronage motive was price, followed by "reliable and friendly service." Other reasons, which are listed near the bottom of the exhibit, combined to account for 15% of the respondents.

"Location of the pharmacy" is like "price" an economic consideration, and more so with our energy crisis. Again, the effect of inflation shines clearly through the data. At least, this is one way to interpret the respondents' answers.

MOST IMPORTANT REASONS FOR HAVING PRESCRIPTIONS DISPENSED AT PARTICULAR PHARMACY

UNITED STATES 1978

	TOTAL	UNDER $7,500	17,500- $15,000	$15,000- $25,000	$25,000 & OVER
Close to home or work	45%	44%	45%	47%	48%
Price of medication	24	26	24	25	24
Reliable and friendly service	16	12	18	15	14
Other reasons	15	18	13	13	14
Delivery Service					
Short wait for prescriptions					
Variety of merchandise available					
Parking convenience					
	100%	100%	100%	100%	100%

While the order of importance of patronage motives remained the same for all income groups, the relative importance varied slightly according to family income. A convenient location was relatively more important for higher income families than for lower income families, but the difference is not statistically significant. The motives listed under "other reasons" were relatively more important in the lowest income category.

LENGTH OF TIME PRESCRIPTIONS OBTAINED AT SAME PHARMACY

	US 1978	US 1976
Over one year	86%	86%
Over two years	73	73
Over five years	49	38
Over ten years	25	21

Duration of patronage, we believe, is one measure of customer satisfaction. When you link length of patronage with the reasons for patronage — convenience of location and price — you have a rough index of satisfaction.

The porportions of pharmacy customers who patronized the same pharmacy for over one year and two years were about the same in 1978 as in 1976. However, a larger proportion of U.S. citizens had patronized the same pharmacy for over five and over ten years in the most recent survey. I believe this is another figure which will encourage your membership.

While we have no data to substantiate an interpretation here, it may simply be that the once highly mobile American public has become less so in the past decade. If so, inflation has certainly played a major role in retarding such movement.

SERVICES PATIENTS EXPECT OF PHARMACISTS

	US 1978	US 1976
Keep record of prescriptions	93%	92%
Personally explain how to take medication	61	53
Fill prescriptions in view	30	24
Fill prescriptions where can't be disturbed	81	—
Discuss prescriptions with M.D. before dispensing	48	37
Other services desired		
Free pick up and delivery		
Give generic names		
24-hour service		
Price listings		
Explain side effects		
Give cheapest product available		
Lower prices		

The first four services shown here were specifically mentioned by the interviewer. There was a substantial increase in the proportion of consumers who expected more personalized services such as the pharmacist explaining how to take the medication, or discussing prescriptions with the M.D. before dispensing. I am sure this is a figure (61%) you will want to take to your membership.

Nearly two-thirds of the respondents in 1978 expected the pharmacist to *personally* explain how to take the medication. This compares with just over 50% in 1976. Nearly one-half of the patients expected the pharmacist to discuss prescriptions with the M.D. before dispensing. Thus, checking with the doctor about any question the pharmacist may have will probably create an impression rather than make the pharmacist appear confused or incompetent.

It is difficult to interpret the responses of the 93% who stated they expected the pharmacist to keep records of prescriptions. This response may mean anything from simply maintaining a prescription file to maintaining a very detailed patient medication profile.

The question about filling prescriptions where the pharmacist cannot be disturbed was not included in the 1976 survey, so we have no basis for a comparison. However, it appears that consumers expect a calm and controlled environment behind the prescription counter. Interruption of the pharmacist during the dispensing process does not inspire confidence on the part of the patient.

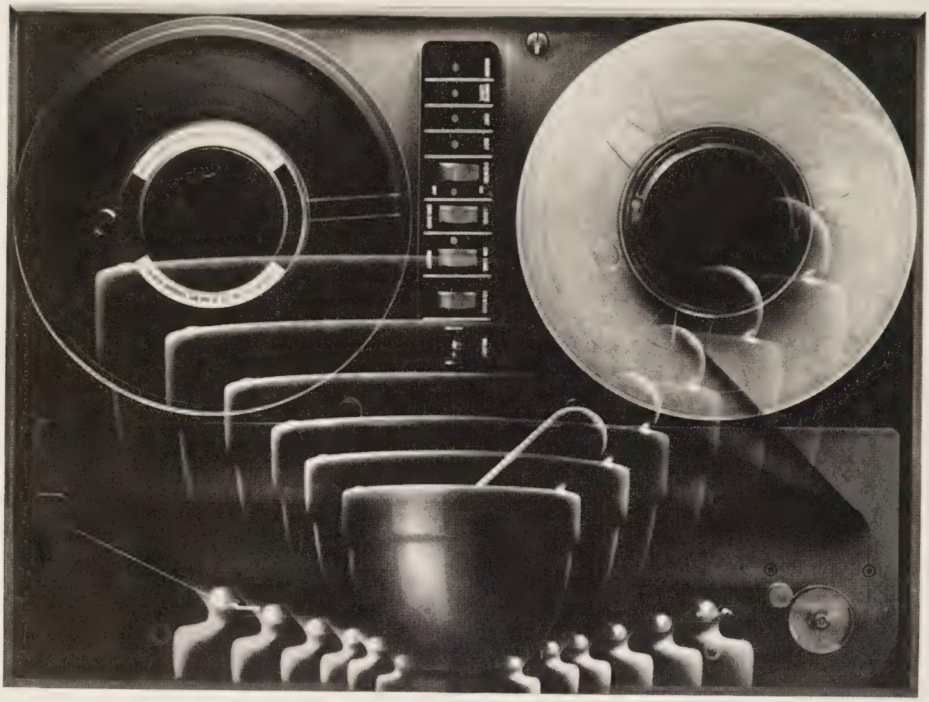
One service that we often hear mentioned is the availability of 24-hour service. First, we tried to find out what level of awareness of 24-hour service exists.

AVAILABILITY OF TWENTY-FOUR HOUR SERVICE

	US 1978	US 1976
Is available	36%	36%
Is not available	62	60
Don't know	2	4
	100%	100%

Slightly more than one-third of the respondents knew where they could have a prescription dispensed at any time of day or night. This proportion remained unchanged from 1976.

LOOK WHAT'S BECOME OF THE MORTAR AND PESTLE.



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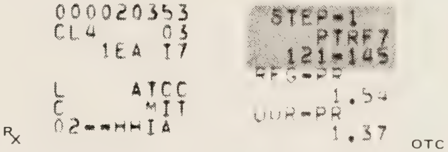

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City ____________ State ____________ Zip ____________
Phone Area Code (   ) ____________________

Following up on this question we tried to determine what interest there is in the service.

DESIRABILITY OF TWENTY-FOUR HOUR SERVICE

	US 1978	US 1976
Is needed	73%	69%
Is not needed	24	25
No opinion	3	6
	100%	100%

Nearly three-quarters of those people who did not know where such a service was available believe it is necessary. There appears to be an opportunity here for pharmacists to either institute 24-hour emergency service or create better patient awareness of the existing service.

OCCASION TO TALK WITH PHARMACIST LAST TIME HAD PRESCRIPTION DISPENSED

	US 1978	US 1976
Yes	46%	45%
No	52	53
Can't remember	2	2
	100%	100%

Basically, there has been no change over the two-year period between studies in the proportion of patients who talked with the pharmacist the last time they had a prescription dispensed. Less than one-half of the patients did so. This is a rather sad commentary on patient/pharmacist communication. For those persons who reportedly spoke with the pharmacist the last time they had a prescription dispensed, approximately 48% of these patients said the conversations pertained to drugs.

Needless to say, there is a solid *opportunity* here for public and professional service.

CAN TALK TO PHARMACIST WHENEVER NEEDED

	US 1978	US 1976
Yes	94%	95%
No	6	5
	100%	100%

Although only 46% of the respondents spoke with the pharmacist the last time they had a prescription dispensed, 94% of the respondents believed they could speak with the pharmacist whenever they wanted to, thus, lack of pharmacist accessibility does not appear to have contributed to the lack of communication with the pharmacist. The lack of communication could be the result of the patient's minimal understanding of drug therapy. It is very possible the patients know so little about drug therapy that they do not know the questions to ask of the pharmacist. Thus, increased patient/pharmacist communication may depend on pharmacist initiated discussions.

Six percent of the patients believe they could not talk to the pharmacist if they wanted to. Just over half of these people said the pharmacist was always too busy to talk.

PATIENTS DESIRING PRIVATE DISCUSSIONS WITH PHARMACISTS

	US 1978	US 1976
Desire privacy	30%	26%
Don't desire privacy	70	74
	100%	100%

On this topic, there was not much change from 1976 to 1978. Thirty percent of the respondents desired a chance to talk with their pharmacist in private. It is possible this proportion would be larger if pharmacist/patient communication was a more frequent occurrence.

OF WHOM PATIENTS ASK PRESCRIPTION QUESTIONS

	US 1978	US 1976
Physician	80%	79%
Pharmacist	24	26
Neither	3	4
(Multiple Answers)		

The proportion of respondents who would ask questions about their prescriptions of their pharmacist has remained relatively constant from 1976 to 1978. Only one out of every four patients said they would ask their pharmacist these kinds of questions. The overall lack of pharmacist/patient communication probably has resulted in patients being unaware of the value of pharmacists as an information source about prescription drug products.

EVER ASKED PHARMACIST'S ADVICE ABOUT OVER-THE-COUNTER DRUGS

	US 1978	US 1976
Have asked advice	37%	38%
Never asked advice	63	60
Can't remember	—	2
	100%	100%

Again, there was basically no change in the proportion of respondents who had at some time or another asked their pharmacist's advice about an OTC drug. Just over one-third had ever asked such advice. What a great opportunity for the pharmacist.

EVER ASKED PHARMACIST'S ADVICE ABOUT TREATING AN INJURY OR ILLNESS

	US 1978	US 1976
Have asked advice	37%	34%
Never asked advice	63	65
Can't remember	—	1
	100%	100%

About the same proportion (37%) of patients had asked a pharmacist for advice on treating an injury or illness. This proportion had increased slightly from 1976.

PATIENTS USUALLY PURCHASING OVER-THE-COUNTER DRUGS AT SAME PHARMACY

	US 1978	US 1976
Aspirin	48%	51%
Cold remedies	61	57
Laxatives	30	39
Shampoo	31	35
Toothpaste	35	38
Vitamins	40	46

Generally, there appears to have been a decrease in the proportion of respondents who purchased non-prescription health and beauty aids in the pharmacy they patronized for their prescription drugs. This is not too surprising with the continuing trend toward more health and beauty aid departments in large discount stores and grocery chains which are used to attract customer traffic.

Might these figures change if the pharmacist was more accessible to answer OTC questions? With the growing importance of up-front business to retail pharmacy because of the professional fee, this could well be an important consideration for pharmacy.

PATIENTS' VIEW OF PHARMACIST

	US 1978	US 1976
Professional medical person	78%	75%
Business person	16	20
Friend	8	10
(Multiple answers)		

The way pharmacists were viewed by consumers has not changed significantly in the time between the two surveys. Approximately three out of four respondents viewed pharmacists as professional medical people. About one out of six thought of their pharmacist as a business person.

PATIENTS' VIEW OF PHARMACIST
NATIONAL SAMPLE 1978

	TOTAL	UNDER $7,500	$7,500- $15,000	$15,000- $25,000	$25,000 & OVER
Professional medical person	78%	81%	82%	73%	74%
Business person	16	10	12	20	22
Friend	8	11	7	8	9
(Multiple answers)					

There was some variability in the way respondents viewed pharmacists when classified on the basis of family income. A larger proportion of the respondents from lower income families viewed the pharmacist as a professional medical person and/or a friend. A larger proportion of the respondents from upper income families viewed pharmacists as business people.

PHARMACIES AS RATED BY PATIENTS

	POOR 1 2 3 4	5	6	7	8	9	10 BEST
U.S. 1978	2%	6%	3%	9%	28%	18%	34%
U.S. 1976	1%	5%	4%	8%	21%	15%	46%

Only about one-third of the respondents in the 1978 survey rated their pharmacy at the very best level (a score of 10) on the scale. Nearly one-half of the 1976 respondents gave their pharmacy a 10 rating. Generally, there has been a decrease in the ratings for pharmacy from 1976 to 1978.

PHARMACIES AS RATED BY PATIENTS CLASSIFIED BY FAMILY INCOME

UNITED STATES
1978

ANNUAL FAMILY INCOME	POOR 1 2 3 4	5	6	7	8	9	10 BEST
UNDER $7,500	2%	6%	1%	4%	21%	15%	49%
						64%	
$7,500 - $15,000	2%	6%	3%	8%	29%	18%	35%
						52%	
$15,000 - $25,000	2%	5%	4%	9%	31%	22%	27%
						49%	
$25,000 AND OVER	1%	4%	4%	14%	27%	21%	29%
						50%	

This exhibit shows respondents in the lowest income category gave the highest ratings to pharmacies, with nearly two-thirds of these respondents rating pharmacies as either 9 or 10. Approximately 50% of the respondents in the other three income categories gave a 9 or 10 rating to the pharmacy which they patronized most often.

PHARMACIES AS RATED BY PATIENTS CLASSIFIED BY NUMBER OF PHARMACIES PATRONIZED

UNITED STATES
1978

NUMBER OF PHARMACIES PATRONIZED	POOR 1 2 3 4	5	6	7	8	9	10 BEST
ONLY ONE	1%	5%	2%	8%	26%	18%	40%
						58%	
TWO OR MORE	4%	6%	5%	13%	32%	18%	22%
						40%	

One would expect persons who patronized more than one pharmacy to rate the pharmacies lower than a person who patronizes only one pharmacy. A person who patronizes only one pharmacy could be expected to be satisfied with the pharmaceutical services at that pharmacy and to give the pharmacy a higher rating.

This tended to be the case in the present study. Fifty-eight percent of those people who patronized only one pharmacy rated that pharmacy with either a 9 or 10. A 9 or 10 rating was reported by only 40% of the people who patronized two or more pharmacies.

PHARMACIES AS RATED BY PATIENTS CLASSIFIED BY SERVICE ASPECTS OF THE PATRONIZED PHARMACY

UNITED STATES
1978

	PROPORTION OF RESPONDENTS RATING PHARMACY WITH 9 OR 10	
SERVICE ASPECT	SERVICE PROVIDED	SERVICE NOT PROVIDED
Pharmacist receives prescription order from patient	58%	43%
Pharmacist spoke with patient last time prescription was dispensed	61%	45%
Patient knows a profile system was maintained	58%	30%

Are services provided at a pharmacy related to the customers' evaluation of the pharmacy? This exhibit shows this is probably the case. Fifty-eight percent of the respondents who reported the pharmacist personally accepts the prescription order from the patient in the pharmacy, rated that pharmacy with either a 9 or 10. This compares with 9 or 10 ratings from only 43% of the consumers who reported someone other than the pharmacist accepts the prescription order in the pharmacy they patronized. Similar finds for the other two services listed seem to show that personalized services tend to be related to higher consumer evaluations of pharmacies.

PHARMACIES AS RATED BY PATIENTS CLASSIFIED BY THE PATIENT'S PERCEPTION OF PHARMACISTS

UNITED STATES
1978

	POOR →									BEST
PATIENTS PERCEPTION OF PHARMACIST	1	2	3	4	5	6	7	8	9	10
PROFESSIONAL MEDICAL PERSON			2%		4%	3%	8%	27%	20%	36%
									56%	
SOMEBODY IN BUSINESS			4%		11%	4%	17%	34%	10%	20%
									30%	
LIKE A FRIEND			--		1%	2%	4%	16%	19%	58%
									77%	

The exhibit shows when the pharmacist is viewed as a professional medical person and/or a friend by the patient, the patient tends to evaluate pharmacies at a higher level than when the pharmacist is viewed as a business person. Only 30% of the people who viewed their pharmacist as a business person gave the pharmacy they patronize a 9 or 10 rating. This compares with 56% and 77% for the other two groups.

The latter part of the survey shows some slippage in the image of pharmacy. A sociologist would undoubtedly have a field day with this data, but I cannot because I lack that training. But I have practiced pharmacy and I have been next to pharmacy one way or another for 30 years and from this viewpoint I can offer some observations.

People today are baffled by their circumstances. Life is better than ever before — by virtually any indicator — but it also seems much more tentative than ever before. When society attains this kind of mindset, it often enters a period of nostalgia — a longing for the "good old days." Thus, the television gives us "Fifties" revivals, and the Hollywood producers give us simple adventure films lacking any sophisticated messages.

Economically the country is trapped between pinch and boom. Per capita expenditures for just about everything are attaining record highs. But because of inflation the record spending is buying less for the consumer.

Because fewer goods can be purchased, people are expecting more and more service. This holds true for practically everything, including pharmaceutical products. The key to public acceptance for pharmacy is *service*. Pharmacists need to be visible, interested in their customers' problems, and willing to interact with these folks in order to help them.

In the actual practice of pharmacy there's not much that can be done about the location of a particular pharmacy. But there is a lot to be done in the quality and quantity of service to be provided.

Based on our survey, the worst thing that can occur in a pharmacy is for the patient to hand his script to a technician and have it returned with no communication passing between that patient and pharmacist. This is the message to take back to your own associations. Get involved. Let the customer know that you care and that you have the wherewithal to help him. Pharmacists are highly trained, highly capable of providing important customer services, but unless they are willing to get involved, their image is likely to continue slipping.

I don't want to mislead you. The image of pharmacy is *not* tarnished; it is *not* in deep trouble. But there are indicators that it could be slipping. As such, the old saw of an ounce of prevention outstripping a pound of cure applies.

The caution here is that many will say this is part of a cycle — a kind of predestination outside the control of pharmacy. All institutions and professions are slipping image-wise. Nothing can be done.

I am reminded of the story of the Confederate Army chaplain who served Stonewall Jackson. This cleric repeatedly told the troops to not worry about their fate on the battlefield because if they were predestined to be killed, a bullet would find its mark, no matter where they were; on the other hand, if their destiny was to be spared, no bullet could hit them no matter where they stood.

One day — in the heat of a pitched battle — with miniballs flying everywhere, the same preacher was seen hotfooting it toward the cover of the nearest and largest tree in the forest. A soldier, who was behind him, asked: "Reverend, you told us all about predestination. Why should you be seeking shelter behind a tree?"

"You do not fully understand the principles and theories of predestination," the preacher replied. "I was predestined to get behind this tree."

I don't think a drop in the image of pharmacists and pharmacies is predestined. Your leadership, however, is essential to forestalling what appears at this time to be the suggestion of a trend.

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Awards Presented at Phi Delta Chi Meeting

At the annual Phi Delta Chi Banquet, Treasurer Jim Polek (right) gives an electric typewriter to Dr. Augsberger for use in the freshman Pharmaceutics lab.

Phi Delta Chi President Don Stran (left) is shown giving Dr. Robert Beardsly the Hubert Humphrey Award.

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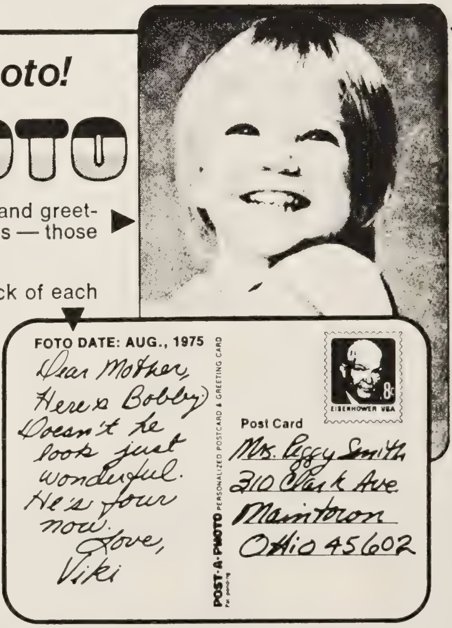

FOTO DATE: AUG., 1975

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look just
wonderful.
He's four
now.
Love,
Viki

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LETTERS

Parenteral Therapy

TO THE EDITOR: I read with interest the article "Home Care of the Terminally Ill" by Phillip Weiner in the May 1979 issue of *The Maryland Pharmacist*. The assessments made from his experience with a terminally ill patient and the personal efforts he is making to better serve these patients are very encouraging. I was particularly interested in one of his statements which focused on the academic training of pharmacists relative to parenteral therapy. Specifically he states, ". . . some changes in the curricula at Pharmacy School might be in order." I would like to see an additional year of intensive study including I.V. additive and TPN, nursing techniques applicable, antineoplastic pharmacology, psychology to death and clinical experience. I would further like to see this as either a Masters or a Pharm.D. program." I agree with Mr. Weiner's desire to have I.V. additives and TPN a part of the education of a pharmacist and support the pharmacists' active role in these areas. For these reasons I would like to bring to the attention of your readers a new course offered at the University of Maryland School of Pharmacy. The course is Pharmacy 457: Parenteral Therapy. It was offered for the first time, this past spring semester on an experimental basis but has since been approved by the faculty as a permanent two-credit elective course offering for fifth year undergraduate students.

This course is a comprehensive review of all aspects of intravenous fluid therapy, directly involving the pharmacist. Emphasis centers around planning, organizing and implementing an Intravenous Admixture Program; internal and external pressures influencing developments in fluid therapy programs; preparation of sterile products; and basic concepts of fluid balance and disease states; total parenteral nutrition and cancer parenteral chemotherapy. The objectives of the course are:

1. To provide the student with an awareness of the need for an Intravenous Admixture and Monitoring Program for institutionalized patients. This would include planning and implementation, the human and material resources needed, and internal and external influences which affect such a program.
2. To provide the student with a basic understanding of the principles and techniques associated with the preparation of sterile parenteral products.
3. To familiarize the student with fluid and electrolyte therapy. Those areas discussed include: the signs, symptoms and laboratory findings based on the primary alterations, the application of disease states to alterations of extracellular fluids, and the treatment or management for each alteration.
4. To explain to the student the basic fundamentals of nutritional support of malnourished institutionalized patients. Once a knowledge data base is established, the student will be able to assess the nutritional status of a patient, recommend the type of support best suited for that patient, and monitor and problem solve potential complications.

The specific topics covered are:

Introduction to course, to include:

1. Planning and implementation of an I.V. Admixture Program
2. Human and material resource required for such program
3. Internal and external influences affecting such program

Sterile Product Preparation and Formulation

1. Introduction to Sterile Product Preparation
   a. parenteral therapy
   b. admixture programs
   c. administration
      i. subcutaneous
      ii. intramuscular
      iii. intradermal
      iv. intravenous
      v. intra-arterial
      vi. intrathecal
      vii. others
   d. basic fluids used for admixtures
2. Principles of Sterile Formulations
   a. pyrogens
   b. microbial contamination
   c. aseptic technique

      i. aseptic technique
      ii. laminar air-flow

laminar air-flow

3. Types of Administration
   a. large volume parenterals
   b. small volume parenterals
   c. intravenous piggyback
   d. volutrol
4. Physiochemical considerations
   a. compatibility
   b. stability
5. Quality Control

Fluid and Electrolyte Therapy

1. Imbalances in Volume of Extracellular Fluid
   a. fluid volume deficit
   b. fluid volume excess
2. Imbalances in Electrolyte Concentration
   a. sodium deficit
   b. sodium excess
   c. potassium deficit
   d. potassium excess
   e. calcium deficit
   f. calcium excess
   g. magnesium deficit
   h. phosphorus deficit
3. Primary Acid-Base Imbalances

    a. changes in base bicarbonate
        i. metabolic acidosis
        ii. metabolic alkalosis
    b. changes in carbonic acid
        i. respiratory acidosis
        ii. respiratory alkalosis
4. Imbalances due to fluid shifts
    a. plasma-to-interstitial shift
    b. interstitial-to-plasma shift

Introduction to Nutritional Support

1. Etiology of Nutritional Support
    a. indications (parenteral and enteral)
    b. contraindications
    c. nutritional assessment
2. Basic Science of Nutritional Support
    a. protein requirements
    b. carbohydrate requirements
    c. fat requirements
    d. micro- and macronutrients
3. Techniques of Administration
    a. parenteral route
    b. enteral route
    c. transitional feedings
4. Nutritional Support Services
    a. team approach to nutritional support
    b. metabolic monitoring
    c. monitoring and treating complications
5. Critical Care Nutrition
    a. renal failure
    b. hepatic failure
    c. trauma and burn injuries
6. Alternatives to Parenteral Nutrition
    a. peripheral nutritional therapy
    b. protein sparing technique
    c. cyclic hyperalimentation
    d. home hyperalimentation
    e. nutrition for the cancer patient
7. Problem Solving and Discussion

Parenteral Administration, Cancer Chemotherapy, Infusion Devices

The course material is presented by an interdisciplinary faculty consisting of: Debra Naccarto, M.S., R.Ph., Division Administrator of Parenteral Therapy, University of Maryland Hospital; Richard Proksch, M.S., R.Ph., Division Administrator for Support Services (I.V. Admixture Program), University of Maryland Hospital; Jack Krause, B.S., R.Ph., Division Administrator for Drug Information, University of Maryland Hospital; Bill Grove, B.S., R.Ph., Assistant Director-Pharmacy Services, B.C.R.C.; Laurie Donaldson, R.N., Nurse Training Specialist for I.V. Therapy, University of Maryland Hospital; Jean Smith, M.S., R.D., Chief of Clinical Dietetics, University of Maryland Hospital and V. de Paul Burkhart, M.S., R.Ph., Director of Pharmacy Services, University of Maryland Hospital and Coursemaster-Pharmacy 457.

There is no doubt that proper nutrition plays a key role in the overall management of a patient. Particularly, the post-surgical, oncology and acutely ill patient on multiple drug therapy.

There is, also, no doubt that the pharmacist can play a vital role in fluid therapy.

In addition to offering this course at the School of Pharmacy, the Department of Pharmacy Services, in the Hospital, is coordinating the monitoring efforts of the pharmacists on the floors and in the I.V. admixture service in an attempt to promote rational parenteral therapy.

Vincent de Paul Burkhart, M.S.

Director of Pharmacy Services
University of Maryland Hospital
Assistant Clinical Professor
School of Pharmacy

Letter from the Dean on Pharmacy Manpower

Dear Dave:

The School of Pharmacy has been receiving increasing comments from its graduates and from other pharmacists in the State suggesting that we are graduating too many men and women for entry into the profession in the State. I, therefore, am writing you this letter for enclosure in the Journal to provide some data on the subject.

The exact number of pharmacists in the State and the type of practice that they perform is currently being delineated through a Health Manpower Study sponsored by the U.S. Department of Health, Education and Welfare and conducted by the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy. The report should be completed very shortly and will update the one that conducted the census of pharmacists in 1973. At that time there were 1922 active resident pharmacists in the State, of which 9 per cent were women. Independent community pharmacy was the principal place of practice for 663 pharmacists, 725 were practicing in chain pharmacies, and 173 were in hospitals and nursing homes. Other sites of practice included manufacturing companies, government, etc.

It is anticipated that the new survey will show an increase in the number of pharmacists that are actively practicing in the State, but one of the key pieces of data that will not be available is what is the turnover rate for pharmacy positions. This data would necessarily include information on the number of pharmacists retiring, the number of new positions created, or positions that are eliminated, etc. That is extremely difficult information to collect and keep up to date, so unfortunately the market for pharmacists becomes the general guidelines for health manpower needs. One determining point in the measure of the market is, have all of the graduates from the School obtained positions? In the past this has always been true.

There will probably be too many pharmacists graduated from schools throughout the country, just as is true in medicine. There are a number of schools that are graduating more pharmacists than are needed in their immediate area or state, but that is not the case here in Maryland. Over the past five years the number of graduates from the University of Maryland School of Pharmacy have been:

- 1975 — 62 B.S.
- 1976 — 76 B.S.
- 1977 — 75 B.S., 5 Pharm.D.
- 1978 — 91 B.S., 6 Pharm.D.
- 1979 — 91 B.S., 6 Pharm.D.

If the number of graduates from our school were the only ones being considered for practice in the State, then we would have a problem with the under-supply of pharmacists. Actually, there are more pharmacists coming into the State than we are providing. For example, 102 pharmacists were licensed by reciprocity from July 1, 1978 to May 1, 1979 compared to 91 pharmacists in a similar time period the previous year, and an average of 83 pharmacists per year for the years 1973-77. In addition, over the years 1973 to 1977 the average number of pharmacists registered through examination was 125. Since the maximum number of graduates at that time was 76 students, this meant that at least 50 individuals were obtaining their license through examination and were products of other schools.

The Board indicates that it would appear that 1972 candidates will be taking the Board examination in June of this year.

The data that I have presented indicates that approximately 200 pharmacists each year are receiving new licenses in the State, either through examination or reciprocity. Less than half of these are graduates of our school. We feel very strongly that our graduates are of the highest quality and should be the type of pharmacist hired by employers in the State. For us to reduce our enrollment would simply mean that others would come in from outside of the State. I would hope that we all agree that quality of practice is the important issue within the State, and that you will agree that the School can do little at this time to change the number of graduates that it produces. It is important, however, that we recognize that the School is not increasing its enrollment and has not done so for five years, in spite of its ability to do so.

I hope that the information enclosed in this letter will provide some insight into the problems of health manpower in the State. I would certainly be receptive to any comments that would help us all in our mutual problem.

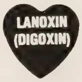
Sincerely,

William J. Kinnard, Jr., Ph.D.
Dean

Dave:

In regard to the item on page 3 of the May, 1979 issue of the Newsletter of MPhA: LANOXIN and Lasix Mixups.

The Burroughs-Wellcome rep. came in about Valentine's Day and gave me two sheets of these press-a-ply hearts to attach to LANOXIN Rxs. Evidently they too are concerned. I put one heart on the top of the vial and one on the vial itself so that *two match*. Here is something so very practical that it should be publicized better than it is. When you have patients with Congestive Heart Failure, Glaucoma, cataracts, deafness, loose dentures and tight bowels the RED really stands out.



Stanley J. Ash, R.Ph.

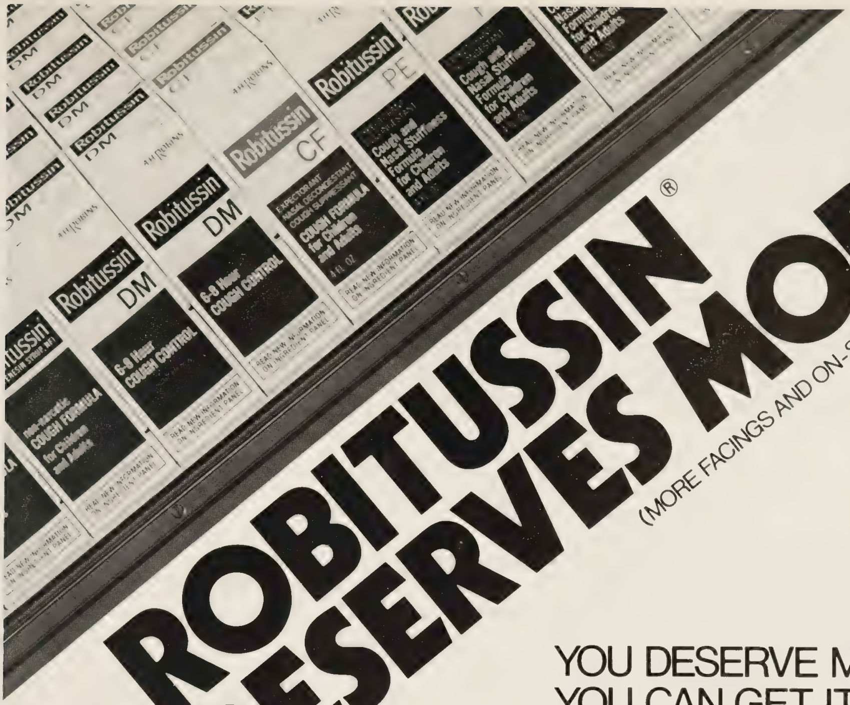
Stanley J. Ash

(Editor's Note) We have received quantities of the stickers at the Association office from the Burroughs-Wellcome Company. Contact the office if you are interested in distributing these stickers.

PREVAILING MAC LIMITS

Drug	Strength	MAC	Effective Date
Acetaminophen w/ Codeine•	30 mg	$0.0780 per tablet	1-25-79
Acetaminophen w/ Codeine•	60 mg	0.1545 per tablet	1-25-79
Amoxicillin	250 mg	0.2108 per capsule	6-28-79
Amoxicillin	500 mg	0.3942 per capsule	6-28-79
Amoxicillin oral susp.	125 mg/5 cc	0.0232 per cc	6-28-79
Amoxicillin oral susp.	250 mg/5 cc	0.0284 per cc	6-28-79
Ampicillin capsules*	250 mg	0.0595 per capsule	1-25-79
Ampicillin capsules*	500 mg	0.1103 per capsule	1-25-79
Ampicillin oral susp.	125 mg/5 ml	0.0145 per ml	10-25-77
Ampicillin oral susp.	250 mg/5 ml	0.0205 per ml	10-25-77
Chlordiazepoxide HCl capsules	5 mg	0.0270 per capsule	5-12-78
Chlordiazepoxide HCl capsules	10 mg	0.0378 per capsule	5-12-78
Chlordiazepoxide HCl capsules	25 mg	0.0640 per capsule	5-12-78
Doxepin HCl*	10 mg	0.0950 per capsule	1-25-79
Doxepin HCl*	25 mg	0.1161 per capsule	1-25-79
Doxepin HCl*	50 mg	0.1765 per capsule	1-25-79
Erythromycin Stearate*	250 mg	0.0697 per tablet	1-25-79
Erythromycin Stearate*	500 mg	0.1250 per tablet	1-25-79
Hydrochlorothiazide	25 mg	0.0250 per tablet	6-28-79
Hydrochlorothiazide	50 mg	0.0306 per tablet	6-28-79
Meprobamate*	200 mg	0.0108 per tablet	1-25-79
Meprobamate*	400 mg	0.0117 per tablet	1-25-79
Penicillin V Potassium oral susp.	125 mg/5 ml	0.0120 per ml	10-25-77
Penicillin V Potassium oral susp.	250 mg/5 ml	0.0160 per ml	10-25-77
Penicillin V Potassium tablets	250 mg	0.0535 per tablet	10-25-77
Penicillin V Potassium tablets	500 mg	0.1025 per tablet	10-25-77
Phenylbutazone*	100 mg	0.0750 per capsule	1-25-79
Phenylbutazone Alka*	100 mg	0.0940 per capsule	1-25-79
Probenecid*	0.5 mg	0.0644 per tablet	1-25-79
Propoxyphene HCl*	65 mg	0.0317 per capsule	4-24-78
Propoxyphene HCl w/APC*	65 mg	0.0330 per capsule	4-24-78
Tetracycline HCl	250 mg	0.0250 per capsule	4-10-78
Tetracycline HCl	500 mg	0.0465 per capsule	4-10-78

*These MAC limits do not apply to unit dose packaging.



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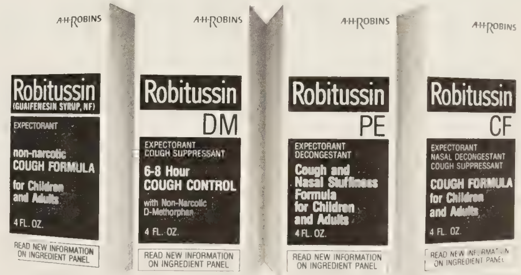
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Henry Seidman, Past President of the Alumni Association (left) presents Honored Alumnus Samuel Goldstein with a plaque. Dean William Kinnard is shown in the foreground.

The Class of 1929 celebrated its 50th anniversary with a large turnout at the banquet held May 30th.

Alumni Association Banquet and Graduation Ceremonies

Picture courtesy Paramount Photo Service

The Class of 1979 is shown at the School's Honors Day Convocation held earlier that same day.

Outgoing Alumni Association President George Voxakis (left) is presented a plaque by the new President Bernard Macek.

Madeline Feinberg (center) received the Frank J. Slama Award from Lillian Slama (right) and Henry Seidman.

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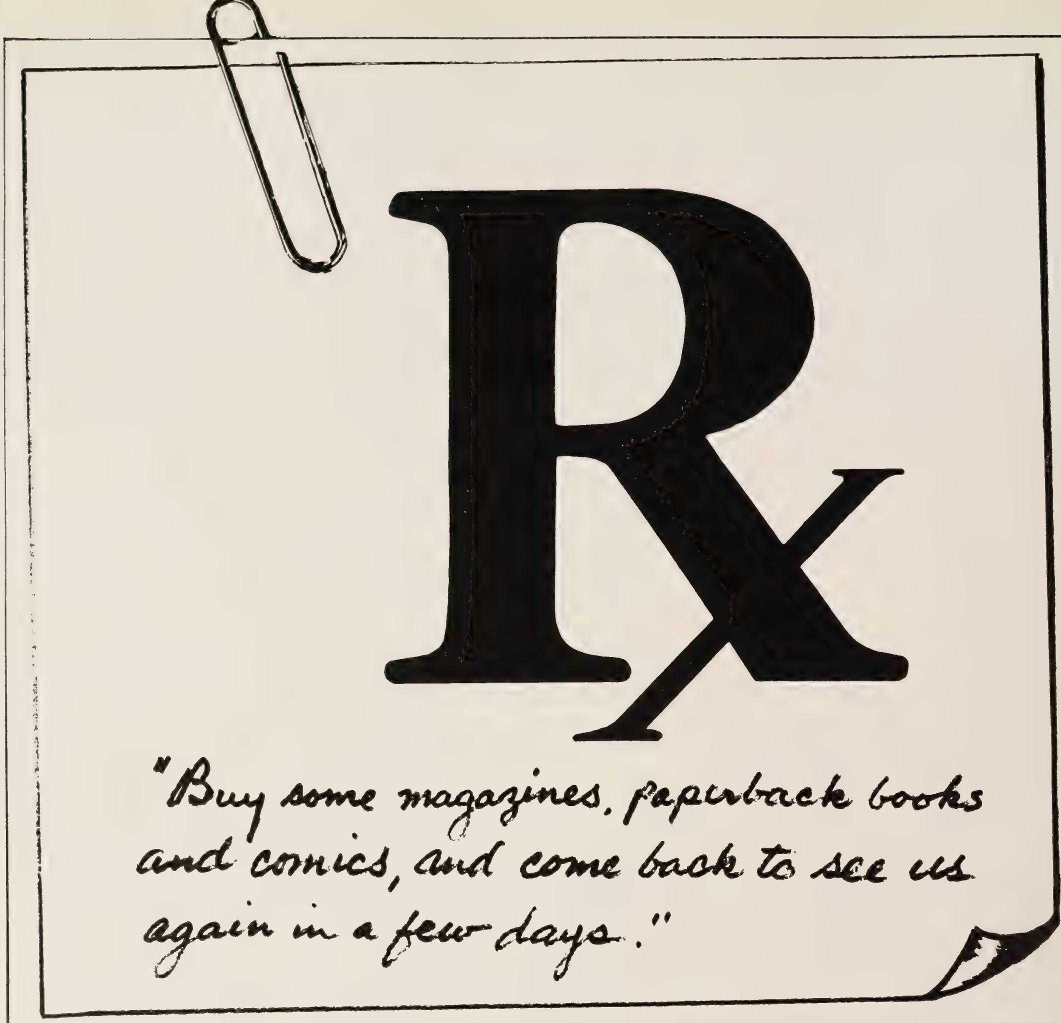
Part time 15-20 hours per week. Prefer Randallstown section. Max Levin (655-6974)

French Speaking Pharmacist for duty in lesser developed countries; long and short term assigns.; knowledge of drug procurement and pharmacy logistics essential; contact 202-686-5100.

WANTED

Eskabarb Spansul 1½ grain made by SKF — contact Mark Levi, Medical Arts Pharmacy — 837-2696.

The Baltimore Veteran Druggists Association held its Annual Crab Feast on June 20, 1979 at the home of Chris Rodowskas, Sr. Not shown is Mark Golibart who took the picture.



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THE MARYLAND PHARMACIST

Official Journal of
The Maryland
Pharmaceutical
Association

AUGUST, 1979
VOL. 55
NO. 8

1979 Convention Coverage

At Tamiment

Pictures and Reports

Resolutions

Winner, 1979 Sandoz
Medical Journalism Award
for State Pharmacy Journals

THE MARYLAND PHARMACIST

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BALTIMORE MARYLAND 21201
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AUGUST 1979 VOL. 55 NO. 8

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SHARON SPIES, *Assistant Editor*
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President's Message

By the time you read this nearly 100 pharmacists will have met with Baltimore Mayor Donald Schaefer at a breakfast meeting. This meeting is significant for two reasons. It shows that pharmacists appreciated the assistance they have received from the Mayor over the years and especially during the latest crisis with the City contract, and it is further evidence that pharmacists are realizing they must become involved in the political process.

The crisis with the City employees drug benefit program which I have mentioned should also serve as an object lesson to Maryland pharmacists. We must be aware that the competition among third party administrators for existing benefit plans is very intense. One of the methods which these administrators use to outbid one another in this competition is to undercut our dispensing fee for the program which is up for bid. We must guard against this trend and speak out when these situations develop. I urge you to write to these third parties, the affected plan officials (union and management) and send a copy of the letter to the Association office expressing your opinion on changes of this nature. In this time when inadequate dispensing fees in general have not kept pace with our rising costs, it would be a disaster to suffer a series of fee cuts due to competition for the business by the third parties. We must all continue to forcefully argue for our economic rights as pharmacists. While we cannot collectively specify the specific amounts for the dispensing fees, we can collectively voice our opposition to policies which are designed to drive pharmacists out of business.

I would like to again emphasize the emerging beneficial relationship with the chain store interests in Maryland. When we can, the Association and the Chains will continue to work together on those issues which threaten all of us.

The Rite Aid Chain has recently concluded an agreement with PDI to pay them Usual and Customary charge plus a 25¢ handling fee. I believe this event is of great significance and may point the way for other negotiated agreements of this kind for both chains and independents with third parties. Drop me a note if you have some thoughts on this matter.

RONALD LUBMAN

REPORT OF THE MPhA BOARD Report

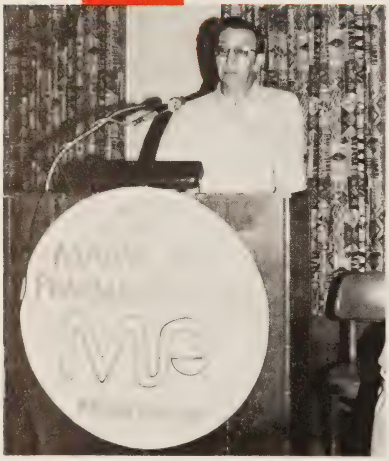
Thank you Mr. Speaker for your kind introduction.

Since much of the informational reporting will be done by others at this convention, I will highlight the activities of the Board of Trustees on behalf of the membership. Due to the resignation of Paul Burkhart, the Board appointed Bonnie Levin to fill the unexpired portion of his term, and following the later resignation of Ernie Gregg, we appointed Ed Sears to fill his term. The term of Jerry Overbeck, who recently moved to Texas, was filled by William Hill.

At this time I wish to thank those members of the Board of Trustees who served promptly and regularly, and whose careful attention to the agenda and concise reports allowed meetings to come to early conclusion. I also extend my personal thanks to David Banta, Sharon Spies, and Mary Ann Frank for their diligent efforts in preparing for the meetings and disseminating materials to the members.

The first major concern of this board was the lack of enrollment in the Blue Cross/Blue Shield insurance program endorsed by the association. With much labor by the staff and cooperation of the Blue Cross representatives, we now have a very favorable benefit program to offer members of MPhA.

The next, and the most important task of the Board, was the completion and use of the Myers and Stauffer survey of prescription dispensing costs. The results were made known and accepted by the Department of Budget and Fiscal Planning, but they were never given the consideration necessary to increase the dispensing fee to the proper amount. Instead, the increase was only to $2.55 effective July 1, 1979, which is less than the rate of inflation. After considerable time and expense attempting to influence the administration, several pharmacists filed suit against the Secretary of Health and Mental Hygiene and the Secretary of HEW. They were joined in the suit by Pharmpac of Maryland and the Complaint has been filed in the U.S. District Court. It is hoped this new administration in the State will pay heed to our plight.



M.Ph.A. Chairman of the Board, Richard Parker, Sr., delivered the report of the Board of Trustees to the House of Delegates during the Association's Convention at Tamiment in the Poconos.

Photo courtesy Paramount Photo Service

The association met with many individuals and agencies during the past year in addition to the Department of Budget and Fiscal Planning. Many of these meetings will be reported elsewhere and include the meetings with Med-Chi concerning auxiliary labeling, and proper labeling by all dispensers of drugs. Meetings were held with law enforcement agencies to cooperate in control of prescription forgeries and drug abuse. One meeting with the Medicaid Audit staff resulted in a change in the manner of recovery on discrepancies in billing and saved a member $1,000 in bill-back

to the Membership

The Year in Review

charges. During the past year the Board of Trustees took actions approving the following:

1. Committee appointments made by President Yaffe.
2. Legislative program submitted by legislative committee.
3. Continuing education programs for Swain Seminar and regional meetings.
4. Fund raising program at Colony 7 Dinner Theatre.
5. Finance committee report and budget for 1979.
6. Increased insurance coverage on Kelly Building and contents.
7. Scholarship fund surcharge of $2.00 per member on dues billing.
8. Final draft of proposed Hospital Pharmacy regulations submitted by MSHP.
9. MPHA/ASCP liaison committee.
10. Recognition of MACDS as recognized body with seat in House of Delegates.
11. Recognition of Joint Committee on Women in Pharmacy, MPHA/MSHP.
12. Cooperation by Mr. Banta with Committee on Professional Practices.
13. Concept of one consumer member of all Health Care licensing boards.
14. Renewal of contract with Executive Director Banta through June, 1980 convention and setting guidelines for other benefits and association related expenses.
15. Intervention by legal counsel, Joseph Kaufman, on behalf of the pharmacists throughout Maryland in Show Cause actions brought by Division of Drug Control against two pharmacists for record keeping violations.

We recently met with Dr. Charles Buck, Secretary of Health and Mental Hygiene, where the issues of Medicaid Fee, pharmacist extend role in health care, heavy enforcement tactics of Drug Control, and need for open lines of communication were discussed. The meeting seemed fruitful and I wish to thank Joe Kaufman for his efforts on our behalf at this, and other meetings these many years. I would also like to congratulate Joe on his election to the office of Honorary President. My thanks are also extended to David Banta and his staff of office workers, Sharon Spies and Mary Ann Frank, for the friendly and courteous manner in which they have treated me. A separate congratulation to David Banta for his winning entry in the 1979 Sandoz Medical Journalism competition for State Pharmacy Journals.

Early in the year we presented a plaque to the WCAO station in appreciation of public affairs programming for Pharmacy. Our thanks to Charlie Spigelmire for his continued dedication to the profession.

We thank the Board of Pharmacy for it's continued hard work to make our profession a better place to practice and especially for it's actions to complete the regulations permitting transfer of prescription copies and pending security and equipment regulations. We congratulate Paul Freiman as recipient of the Bowl of Hygiea award for 1979.

Our thanks, also to Dean William Kinnard and the staff of the University of Maryland School of Pharmacy, for close cooperation with the Board of Trustees and for the Continued efforts to be frontrunners in new professional concepts. We congratulate Dean Kinnard on his appointment to the Institute of Medicine, National Academy of Science. We thank the officers of MSHP for the harmonious manner in which we have worked these past two years or more and congratulate Clarence Fortner on receiving the Purdum award. The SAPHA branch at Maryland is a hard working group and travels the continent to be a part of Association activities. Recent screening of hypertension was performed on approximately 1000 persons with credit to the profession. We congratulate Ruth Blatt on this activity and for winning first place tie on her project "Optimizing results of Drug Therapy" which was printed in the Maryland Pharmacist after presentation in the AACP National Competition.

My personal observations at this point. It is gratifying to note the substantial increase in membership and the return of this association to fiscal responsibility. The very capable leadership of Mel Rubin during his years of President and Chairman of the Board resulted in the securing of David Banta from Indiana. They, more than any other, have brought us an association in which we can be proud. My sincere personal thanks to you both. I also wish note the continued hard work of President-Elect Ron Lubman and the successful trips and conventions he has orchestrated. I wish for you a very successful and rewarding year. And although I acknowledge the actions performed for the association by your committees, I express my thanks to you as a group for a job well done. Lastly, I thank the Bloom family for the many services performed on behalf of MPhA.

Respectfully submitted,

Richard D. Parker
Chairman

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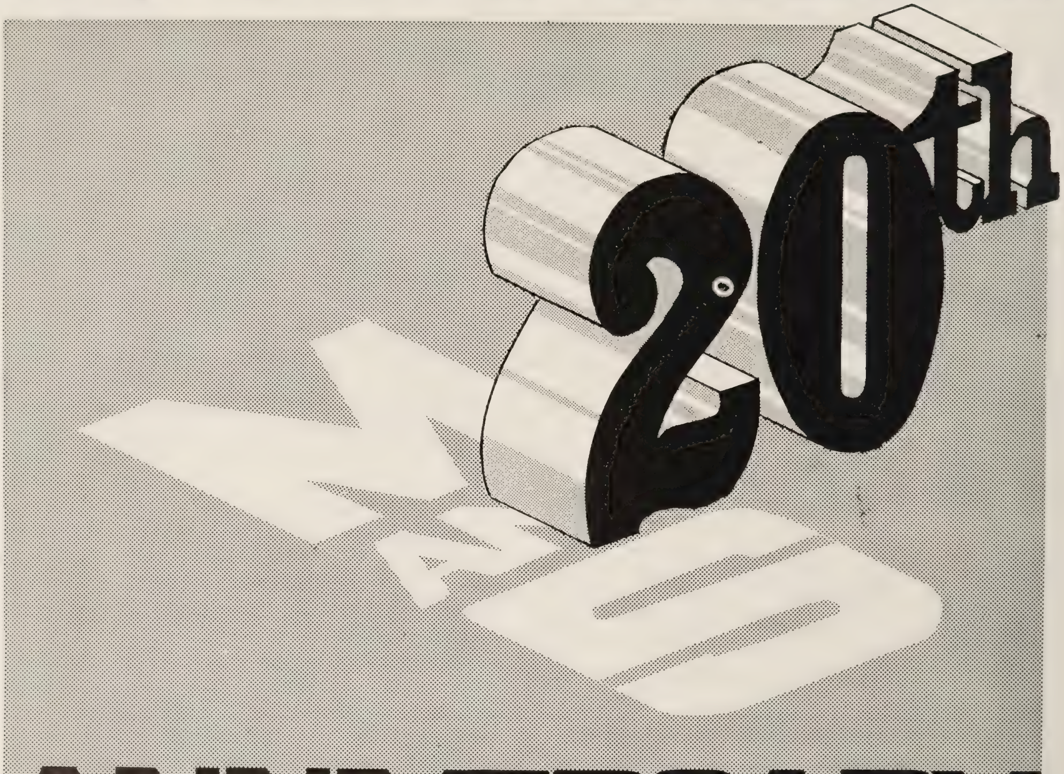

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Board of Pharmacy Report to the Association

Delivered by Board Secretary Paul Freiman at the MPhA Convention

In compliance with the provisions as set forth in Section 258 of Article 43 of the Annotated Code of Maryland, this report is submitted to the Honorable Harry Hughes, Governor of Maryland and to the Maryland Pharmaceutical Association. This is the seventy-sixth report to the Governor and the sixty-sixth report to the Association. The report covers the activities of the Maryland Board of Pharmacy for the fiscal year ending June 30, 1979. This report is also being submitted to the Secretary of Health and Mental Hygiene, the McKeldin Library of the University of Maryland, the Enoch Pratt Free Library, the Department of Legislative Reference, the Hall of Records, and the State Library.

PERSONNEL

During the year the Board held seventeen meetings, seven of which were held at the School of Pharmacy of the University of Maryland, for the purpose of conducting examinations for registration of pharmacists.

Bernard Lachman was elected President and Paul Frieman was elected Secretary-Treasurer of the Board.

Roslyn Miller is the Administrator; Karen Richardson is the Steno-Clerk III and the Steno-Clerk II position is vacant.

EXAMINATION

The Board conducted two examinations for registration of pharmacist during the fiscal year. They were held at the School of Pharmacy of the University of Maryland on September 27, 28 and 29, 1978 and June 5, 6, 7 and 8, 1979.

There were 35 applicants for the Board in September. Twenty passed both the theoretical and practical portions of the examination and were subsequently registered. Fifteen failed the examination. Having previously passed the theoretical portion of the examination, one candidate took the practical examination in September. The candidate passed and was subsequently registered.

Data relative to the June, 1979 examination is not available at this time.

The Standard Examination of the National Association of Boards of Pharmacy was given, which consisted of the following subjects:

Chemistry
Pharmacy
Mathematics
Pharmacology
Practice of Pharmacy
Laboratory
Jurisprudence

The Jurisprudence examination which was compiled by a member of the Board was given as a part of the practical portion of the examination, as well as the compounding of three prescriptions per applicant.

The following table shows the number of pharmacists who were registered by examination during the past ten years:

Year	Number of Pharmacists
1969-1970	93
1970-1971	112
1971-1972	133
1972-1973	96
1973-1974	111
1974-1975	113
1975-1976	109
1976-1977	166
1977-1978	150
1978-1979	21

As in the past many pharmacists applied for reciprocal registration in Maryland in order to accept position with their employers who are opening stores in Maryland. Those applicants who did not meet our requirements concerning practical experience prior to or after registration were advised that they must take our practical examination in order to verify their qualifications.

In all cases an applicant for reciprocal registration must appear for a personal interview. The entire Board must act on whether or not to grant registration to such applicants, who must sign an agreement to comply with Maryland's laws pertaining to drugs and pharmacy.

The following table shows the number of pharmacists granted registration by reciprocity and the number who were certified to register by reciprocity in other states during the past ten years.

Fiscal Year	Reciprocity	Certification
1969-1970	75	40
1970-1971	92	26
1971-1972	67	35
1972-1973	94	57
1973-1974	88	63
1974-1975	76	45
1975-1976	89	44
1976-1977	78	68
1977-1978	91	77
1978-1979	113	42
Total	863	497

The table shows Maryland gained 366 pharmacists by reciprocity during the past ten years.

New permits to operate a pharmacy were issued to 46 firms for 1979 Fiscal Year.

PHARMACY PERMITS

Location	1978-1979
Counties:	
Anne Arundel	4
Baltimore	3
Carroll	3
Cecil	1
Frederick	2
Garrett	1
Harford	3
Howard	1
Montgomery	4
Prince George's	3
Queen Anne's	1
Washington	1
Worcester	4
County Totals	31
Baltimore City	15
State-wide Totals	46

MANUFACTURERS' PERMITS

New permits to manufacture drugs, medicines, toilet articles, dentifrices or cosmetics during 1979 were issued to 1 firm.

DANGEROUS DRUG DISTRIBUTORS' PERMITS

The Board issued 10 new permits to sell, distribute, give or in any way dispose of dangerous drugs during 1979.

LEGISLATION

The following legislation which effects the profession of pharmacy either directly or indirectly was enacted by the 1979 Maryland General Assembly and signed into law by Governor Harry Hughes.

List of the Bills That Were Passed by Both Houses of the Legislature

Bill No. 518 — Courts — Convictions of Pharmacists
Purpose Requiring the courts to report convictions of pharmacists who have committed certain crimes.

Bill No. HB 960 — Generically Equivalent Drugs
Purpose Altering the requirement for passing on savings to consumers when a pharmacist fills a prescription with a lower cost drug; limiting the liability of pharmacists for certain acts under this section; requiring the Department of Health and Mental Hygiene to establish certain drug formularies; providing for the revision and distribution of the formularies; and requiring the Department to educate the public concerning the provisions of this Act, if necessary, and to monitor the effects of the Act.

Bill No. HB 1816 — Butyl Nitrite
Purpose Providing that it is unlawful to inhale excessive quantities of butyl nitrite so as to cause excitement, stupefaction, or certain other conditions; providing, by reference, that it is unlawful to distribute or possess with intext to distribute this substance to minors for certain purposes; making it unlawful to instruct a minor in the use of unlawfully inhaling this substance; generally relating to the use and distribution of butyl nitrite; and declaring this Act to be an emergency measure to take effect from the date of its passage.

Bill No. SB 486 — Drugs — Labeling
Purpose Requiring certain persons to label certain medications with certain information *in certain circumstances*; and creating exceptions for certain medications dispensed by certain persons in certain circumstances.

List of Bills that were Introduced, but Did Not Pass Both Houses of the Legislature

Bill No.	Short Title
HJR 10	Pharmacists — Administering Tests
HB 423	Pharmacy Assistance Program — Financial Eligibility
HB 457	Medication — Elderly Patients
HB 519	Pharmacists — Continuing Pharm. Education
HB 955	Pharmacy Assistance Program — Eligibility Guidelines
HB 1375	Regulatory Boards — Consumer Representatives
HB 1815	Butyl Nitrate — Controller Dangerous Substances
SB 51	Patient Medication Profile System
SJR 14	Members of Boards & Commissions — Salary
SB 450	Prescription Drugs
SB 961	Health & Mental Hygiene Boards
SB 962	Medicaid — Reimbursements for Prescriptions

RULES AND REGULATIONS

10.34.04 Transfer of Prescriptions Between Pharmacies was promulgated in the Maryland Register, Volume 6, Issue 9 on May 4, 1979. These regulations facilitate the transfer of prescriptions from one pharmacy to another.

DISCIPLINARY ACTIVITIES

The Board of Pharmacy receives complaints from the public concerning problems with the Board's licenses. During the first half of the fiscal year 1979, 47 complaints were received. There were a wide range of complaints which varied in severity. The most common complaints were for prescriptions being filled incorrectly or being mislabeled.

COOPERATIVE ACTIVITIES

The Board maintained membership in the National Association of Boards of Pharmacy. The annual meeting of the Association was held in Chicago, Illinois on April 28 — May 2, 1979. The Board was represented by Mr. Bernard Lachman, Ms. Estelle G. Cohen, Mr. Leonard J. Demino and Mr. Robert E. Snyder.

The Board also maintained membership in the Conference of Boards and Colleges of Pharmacy of the National Association of Boards of Pharmacy, District Number Two, comprised of the states of New York, New Jersey, Pennsylvania, Delaware, Maryland, the District of Columbia, Virginia and West Virginia.

The Board maintained cooperative activities with the State Department of Health and Mental Hygiene, the School of Pharmacy — University of Maryland, the Maryland Pharmaceutical Association, the Federal Drug Enforcement Administration, the Food and Drug Administration, City, County and State Police and all boards and pharmacy schools throughout the country.

FINANCES

All funds of the Board of Pharmacy are deposited to the credit of the Treasurer of the State of Maryland and disbursements covering the expenses of the Board are paid by voucher by the State Comptroller.

FINANCIAL STATEMENT

Date relative to the financial statement will not be available until July or August 1979.

OTHER ACTIVITIES

In addition to the President Bernard Lachman and Secretary Paul Freiman, the Board consists of the following commissioners: Ralph Quarles, Robert Snyder, Leonard DeMino, Anthony Padussis, and Estelle Cohen. All the commissioners are registered pharmacists in the State of Maryland with the exception of Mrs. Cohen, who is a consumer (public) member of the Board.

During this year the Board published a newsletter which was distributed to all Pharmacists registered in Maryland. Although, due to budgetary restrictions, only one issue was distributed. The Board is hopeful of publishing a newsletter in 1980 on a quarterly basis.

At the initiation of the Board, Division of Drug Control has been inspecting State institutions to determine if inmates are receiving the benefit of proper pharmaceutical service, and if proper safeguards are being used to assure proper distribution of prescription drugs. As a result of these inspections, the Board is pleased that two penal institutions have applied for Pharmacy permits, thus eliminating a potentially dangerous situation.

The president and secretary of the Board had the opportunity to meet with Dr. Charles R. Buck, Jr., Secretary. As a result of this meeting the Board feels that a better working relationship has been established between the Board and the Department of Health and Mental Hygiene.

Through the efforts of Ms. Roslyn Miller, Administrator, a Procedural Manual for the Board of Pharmacy has been developed. As stated in the manual the purpose is to describe the operation of the Maryland Board of Pharmacy, the Board's relationship to other departments within the Department of Health and Mental Hygiene, and the procedures used by the Board to relate to these other departments.

The Board during the year has been able to respond promptly to queries and complaints from other registrants and interested consumers. All correspondence received by the Board is usually answered within two weeks of receipt, unless it requires Board action.

The Board cooperated with the State of Maryland Commission to Revise the Annotated Code. As a result of meeting with the Commission, and active participation in its deliberations, the revised section on "Pharmacists and Pharmacies" should be ready for presentation to the Maryland General Assembly at its next session.

In addition to the added items as stated, the Board participated in many activities to numerous to mention. All of the Commissioners actively participated by serving on various committees appointed by the president, attending numerous meetings throughout the State, and being available for consultations and special meetings when necessary.

Respectfully submitted,

Paul Freiman
Secretary-Treasurer

LETTERS

Dear Governor Hughes:

The American Pharmaceutical Association, the national professional society of pharmacists with more than 55,000 members, strongly urges you to add pharmacists to those health care professionals now exempt from the Maryland odd-even gas rationing plan. This would be consistent with the precedent established in 1973 when pharmacists, physicians, and nurses were exempt from the Maryland odd-even gas rationing plan adopted that year.

By not including pharmacists in the medical exception to the gas rationing plan, Maryland is at most achieving only a negligible gas savings, at the sake of endangering the health and safety of Maryland residents. The state of Maryland currently has only 3,000 practicing pharmacists serving the health and drug needs of more than four million Maryland residents. Pharmacists must have adequate and reliable supplies of gasoline in order to deliver necessary medications to patients, many of whom are bed-ridden and thus not able to come in to the pharmacy to obtain their own medications. Furthermore, pharmacists must have a consistent source of gasoline if pharmacists are to be available in the pharmacy to meet the emergency drug needs of their patients who are able to come in to the pharmacy. We have had reports from our members that due to the long and often unusual hours which pharmacists work in order to be available to their patients, the odd-even gas rationing plan often puts them in the situation of being available to obtain gasoline only at times when no gasoline stations are open. It is not unusual for pharmacists — like physicians — to receive calls from patients needing emergency health services in the middle of the night or early morning hours. If pharmacists have no gasoline for driving to the pharmacy to dispense needed drugs, they will be helpless to fill such emergency health needs, and the health and life of Maryland citizens will be endangered.

The pharmacists of Maryland should not be kept from fulfilling the health care needs of your citizens. Therefore, we strongly urge you to once again include pharmacists among the health care professionals excluded from the requirements of your state's odd-even gas rationing plan.

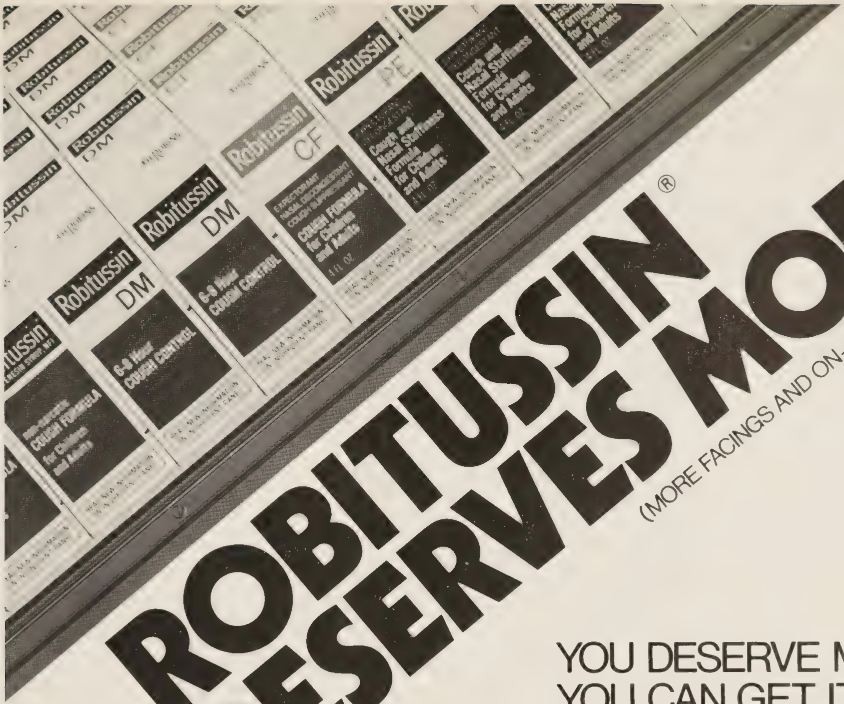
Sincerely,

William S. Apple, Ph.D.
President

Dear David:

Just a note to reiterate that pharmacists in Maryland should make certain that their patients are properly informed when generic drugs are dispensed as substitutes for brand name drugs and that the patient enjoys a monetary benefit from product selection. Thank you.

Sincerely,
Estelle G. Cohen, Commissioner
Maryland Board of Pharmacy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Drawings to be held at the N.A.R.D. Convention

Convention dates: Week of October 15, 1979.
Location: Las Vegas, Nevada.
You need not be present in order to win.

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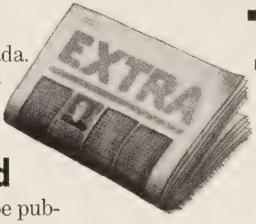

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MphA

June 24-28, 1979

1978-79 MPhA President Stanley Yaffe (left), presents a plaque to the Association's Honorary President Joseph Kaufman.

C. Earl DeRamus, Manager of Customer Affairs for Sandoz (left), presents the first place Medical Journalism Award to David Banta for the *Maryland Pharmacist*.

Sports played a large part of the success of the Convention in nearly perfect weather. Excitement was generated when Pharmacist Abe Glazer performed CPR on a fellow golfer who had collapsed with an apparent heart attack. Abe is credited with saving his life.

1979-80 MPhA President Ronald Lubman (right) presents the Past Presidents plaque to outgoing President, Stanley Yaffe.

Sharon and Jim Spies handled the registration chores as members and families checked in at the beautiful Pocono resort.

Convention Pictures

Tamiment in the Poconos

Picture courtesy Paramount Photo Service

President Ronald Lubman receives a special surprise award from LAMPA Program Chairman Mrs. Arlene Padussis (center), and LAMPA President Mrs. Charlotte Reznek. The Award will be on display at the Kelly Memorial Building.

John Steighner from Geigy presents Mrs. Sonya Yaffe with the 1979 Pharmacists Mate Award at the Convention Banquet.

The popular Presidential Reception following the nightclub entertainment spilled out into the hallway.

Disco Lessons anyone? Part of the special entertainment provided by Tamiment for the MPhA Convention.

Convention Banquet Toastmaster Philip Cogan presided over the festivities.

Photo courtesy Paramount Photo Service

Clifford Woodbury of Woodbury and Associates provided a valuable and entertaining program on communications and motivation.

Dr. Maria L. Bergamo, Assistant Director of Professional Services for Hoffman-LaRoche discussed the benzodiazepines and their future.

Margaret Jack, Senior scientist in the Department of Pharmacokinetics and Biopharmaceutics for Hoffman-LaRoche, outlined the factors in bioavailability studies.

Convention Banquet Grand Marshall Charles Spiglemire (left) presents a special award to outgoing Speaker of the House, Milton Sappe (right).

Ray Langston of the A.H. Robins Company (left) presents the Bowl of Hygeia award to Paul Freiman (center) with Association President Stanley Yaffe (right).

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Members of the Roche Sales Force must undergo an intensive training program before representing the company.

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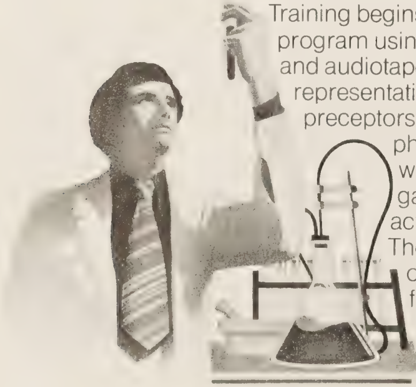
Training begins with a home study program using standard medical texts and audiotapes. At the same time, representatives participate in preceptorships with physicians, pharmacists and wholesalers in order to gain insight into the daily activities of our customers. They receive practical on-the-spot training from experienced sales personnel and instruction on Roche policies and procedures from field managers.



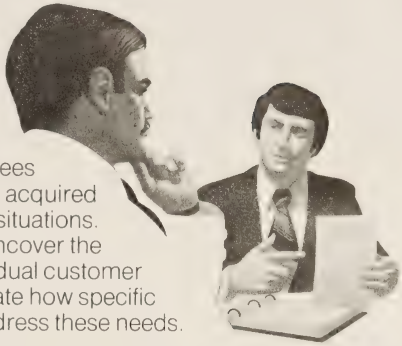
80 HOURS:
TRAINING SEMINARS

The Roche Career Development Training Center utilizes the latest in educational technology to provide specialized instruction on each major product. Medical expertise is brought into the classroom through live lectures, closed circuit videotapes, audiotapes and computer learning systems.

Through this innovative multimedia approach, trainees learn the pharmacology of Roche and competitive products. They learn to differentiate the diseases and disorders for which Roche medications are indicated from those for which they would not be appropriate.

40 HOURS: COMMUNICATION TRAINING

This innovative program draws on modern communication techniques to increase interpersonal skills. Trainees practice these newly acquired skills in role-playing situations. They learn how to uncover the needs of each individual customer and to effectively relate how specific product features address these needs.



10 HOURS: TESTS AND EVALUATIONS

Every step of the way, trainees are checked to be sure they have properly assimilated the information presented to them. Evaluations are made on the basis of oral and written tests and on the trainee's performance in "role-play" selling situations.

Trainees are expected to score at least 80% on standard written tests. Opportunity is allowed for review and re-testing until every representative can meet the standards.

250 HOURS IS JUST THE BEGINNING

250 hours represent only a fraction of total training time because most phases described deal with only one or two Roche products. When one cycle is completed a new one begins, covering other products. This process is repeated until all major Roche products are included. Total training time may therefore exceed *700 hours.*

And learning doesn't stop when the training period ends. All Roche Representatives are involved in an annual recertification which reaffirms their knowledge in pertinent areas. Representatives must score at least 80% on the annual test: The Advanced Qualification Program.

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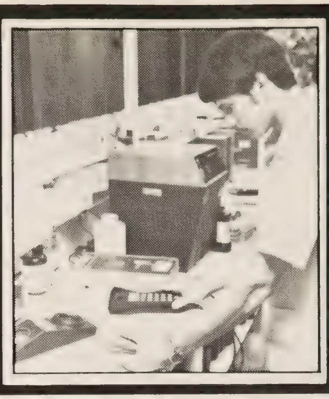

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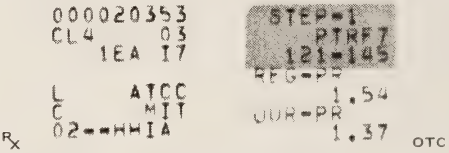

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    1EA  I7         121-145
                   REG-PR
L       ATCC             1.54
C        MIT       UUR-PR
02--HHIA                 1.37
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Executive Director's Annual Report

The year just past was a very successful one for the Maryland Pharmaceutical Association. In all of the ways that we can measure growth and progress, the Association has recorded gains. I believe this success can be attributed to the hard work and dedication of the Officers and Trustees and especially to the efforts of President Stanley Yaffe.

Although I know that others will report in some detail on the strides we have just made, I would like to point out a few of the events which I believe, from my perspective as Executive Director, will have some lasting impact upon the profession.

The Association showed significant gains in the number of members who paid their dues early in the year. This trend coupled with the vigorous membership promotion campaigns planned by the Membership Committee, has meant that the Association, at the half year point in the membership year, now has more members than we had in all of 1978. The Association through the Finance and Budget Committee, was again successful in holding down costs with a balanced budget while building up the essential Association reserves.

Maryland has been a legislative leader in pharmacy in the past and this year proved to be no exception. The MPhA is making national trade news with the passage of HB 960 which goes into effect July 1, 1979. Maryland thus becomes the first state to pass the language of the Model FTC act allowing for the Pharmacist to retain a portion of the cost savings when drug product selection is practiced, and removing liability from the pharmacist. In general, it was a very successful year which saw the defeat of all the bills which we opposed and the passage of nearly all that we supported.

Again, Maryland Pharmacy made national news. PharmPAC filed its 6.4 million dollar law suit against HEW and the Department of Health and Mental Hygiene. Win or lose, I think it shows that Maryland Pharmacists are willing to stand behind their principles. The .10¢ increase in the dispensing fee under the medicaid program was an insult when one considers the data from the Myers and Stauffer Survey.

I believe that one of the personal objectives of President Yaffe was to undertake a campaign to assist pharmacists who called upon the Association in such a way that members and non-members would see that the Association is a resource for problem-solving. Stan's idea has been realized over and over again. This year saw the Association accomplish many of the unheralded "little victories" to go along with our big victories. Yet these little victories were the ones that seemed to be most appreciated by the Pharmacists we were able to help.

The most publicized example of the Association coming to the aid of its members, started almost a year ago when this House of Delegates passed a resolution addressing the difficulties encountered by Pharmacists Neal Jacobs and Abe Glaser with the Division of Drug Control. While the Association is still watchful of the causes which culminated in this activity against these members, I am happy to report that charges apparently have been dropped against them both. The Association's attorney, Joe Kaufman, has worked on these cases and I'm sure you will hear more about them.

I am pleased with the expansion and stability of the Association's endorsed Blue Cross/Blue Shield Major Medical Health Insurance Plan. It has proven to be one of our most popular programs and one which has helped us recruit new Association members.

Another big victory occured when the *Maryland Pharmacist*, our monthly journal, won the Sandoz Medical Journalism Award for outstanding state pharmaceutical publication.

We have continued the project of revitalizing the Kelly Memorial Building and making it available for the use of pharmacy groups. In addition, this year we were pleased to have an extern, Ruth Sammel Blatt, study Association management with the staff.

Some accomplishments are just as important as the ones I have just mentioned but a little more difficult to define. I believe that an important trend in Maryland Pharmacy is the continually improving relations among all segments of this profession. I have seen greater cooperation before the legislature, among liaison groups and in the communications between pharmacy groups in this state. I am very encouraged by this trend and hope that we may foster its growth for the benefit of all.

Executive Director David Banta addresses the House while Speaker Milton Sappe looks on.

As an example, the University of Maryland School of Pharmacy, The Maryland Society of Hospital Pharmacists and the Maryland Pharmaceutical Association have jointly formed the Maryland Continuing Education Coordinating Council. This important cooperative effort will help us evaluate and provide for the professional continuing educational needs of Maryland Pharmacists. I believe it is a significant step.

In addition, at last year's convention, an announcement was made before this body that a number of pharmacists and pharmacy students were contemplating the formation of a women in pharmacy organization. This past year has seen the development of such a group as a joint committee of the MPhA and MSHP.

While these accomplishments are impressive, I think we can all agree that much more needs to be done. I would hope that the Association will emerge from this convention buoyed by a sense of optimism and yet challenged to accomplish even more in the course of the next year. I hope to stand before you next year and report even more gains for pharmacy. We can do this and more, if we work together for the benefit of all through a strong Maryland Pharmaceutical Association.

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100 tablets
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Pharmacy Pride at the School

In a talk several years ago I compared the practice of pharmacy with the City of Baltimore. Both were elegant ladies of the past who had seen their ups and downs, are passing through a time of rejuvenation, and have the distinct possibility of an exciting future. Just as Baltimore is being revitalized through the efforts of many individuals and groups, we need to work in a joint effort to insure the soundness of our profession. I want to use this opportunity to indicate that the School wishes to work with you in that effort since we obviously have the same goals, even though our immediate priorities might differ from time to time.

Now is a very appropriate time for all of us to consolidate our resources and work toward the improvement of our profession. The Maryland Pharmaceutical Association is enjoying very dynamic and innovative leadership. The Board of Pharmacy has a membership that is unexcelled when compared to past years. The School of Pharmacy, I am proud to say, has one of the finest faculties in the country and an excellent group of students.

I hope that the School can make a major contribution to the future of the profession, and in doing so be more responsive to the needs of the practitioner. We have reorganized our faculty so that we can more effectively deal with practice needs. We look forward to collaborative efforts with the State Associations in the provision of continuing education. The School will devote increased efforts to generate model programs and attract research support on issues related to the practice of our profession, and indeed Dr. Frank Palumbo and co-faculty members have attracted a major grant of over $400,000 to examine drug utilization in nursing homes.

We hope to increase the offerings of educational opportunities other than continuing education for practicing pharmacists. We are also continuing to improve our undergraduate program so that our students, who we already feel are among the best in the country, can improve their skills in such areas as communication and management.

As the School moves ahead, we certainly are open to any suggestions from members of the Association, and in fact we encourage your guidance and assistance. I would hope that as we all work toward our common goal of improved pharmacy services we retain and amplify the pride that many of us have in our profession. Too often there are those in pharmacy that downgrade our profession just as many of the people do who are citizens of the City of Baltimore. By the way, that downgrading of the city is not a recent event. Mencken in 1910 said, "The average Spokane man when he thinks of Spokane jumps into the air and cracks his heels together. The average Baltimorean, when he thinks of Baltimore, begins to growl . . . Nearly every Baltimorean able to speak the English language — a dwindling majority — cherishes and voices some bilious objection to the city . . ." Those of us in the School have a great pride in our profession, as well as the City of Baltimore, and we are not timid about speaking out in their support. I hope you will join us.

William J. Kinnard, Jr., Ph.D.
Dean

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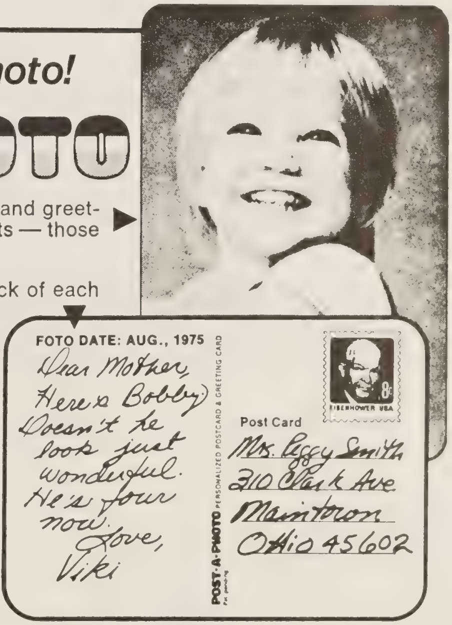

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Here's Bobby!
Doesn't he
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He's four
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BENTYL       TAB 20MG
100          QTY 1
NDC 68-0123-61
           2437-1576
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NDC    68
0123-61
   5D70
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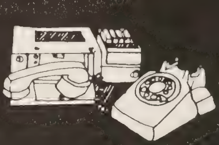

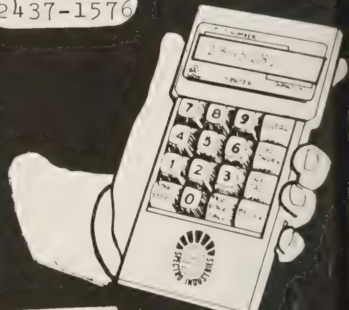

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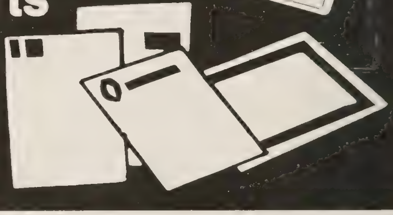

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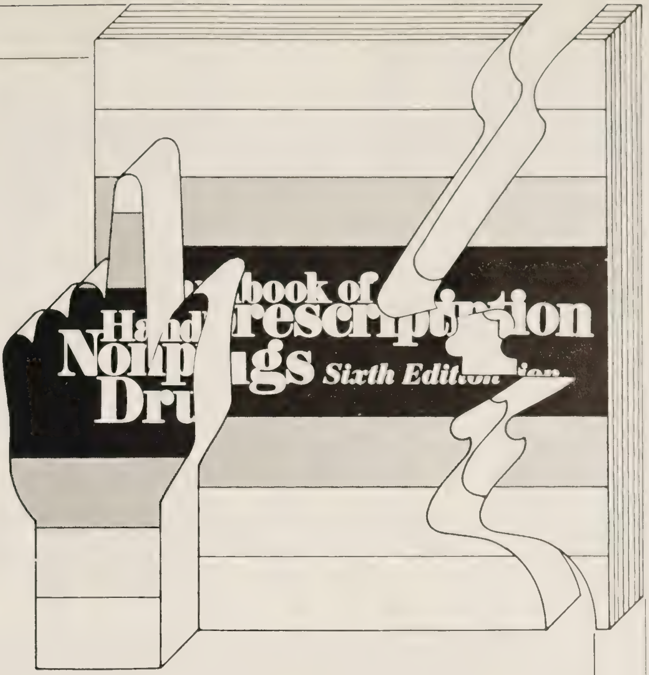

Contents

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- Antidiarrheal and Other Gastrointestinal Products
- Laxative Products
- Emetic and Antiemetic Products
- Ostomy Care Products
- Cold and Allergy Products
- Asthma Products
- Internal Analgesic Products
- Nutritional Supplement, Mineral, and Vitamin Products
- Infant Formula Products
- Diabetes Care Products
- Weight Control Products
- Sleep Aid, Sedative, and Stimulant Products
- Menstrual Products
- Contraceptive Methods and Products
- Feminine Cleansing and Deodorant Products
- Otic Products
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- Contact Lens Products
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Resolutions adopted by the MPhA at the 1979 Convention

RESOLUTION NUMBER ONE

WHEREAS, the Eli Lilly Company, at great expense, developed and distributed through state associations, Public Service Announcements for television and radio and

WHEREAS, this public relations effort has reflected great credit upon pharmacists by emphasizing professional services available to the public from pharmacists, and

WHEREAS, these public service messages do not identify Eli Lilly and Company as the originators of this public relations project,

THEREFORE, BE IT RESOLVED, that the Maryland Pharmaceutical Association extend its sincere commendation to the Eli Lilly Company for its efforts on behalf of pharmacy in this regard, and that the Association's expression of gratitude be conveyed to the Eli Lilly Company.

RESOLUTION NUMBER TWO

WHEREAS, Maryland was a pioneer state in the area of drug product selection and has become the first state to adopt the model Federal Trade Commission Act on drug product selection, and

WHEREAS, some drug manufacturers are now marketing drugs, which are still protected by the patents of competing manufacturing companies, or are marketing drugs without Federal Food and Drug Administration approval when required,

THEREFORE, BE IT RESOLVED, that the Maryland Pharmaceutical Association through the Industry Relations Committee, investigate this matter and report to the membership those companies and drug products that are being marketed without FDA approval when required and be it further

RESOLVED, that the Association recommend to the Formulary Committee, the adoption of policy which would exclude such companies and drug products from the Maryland Formulary and be it further

RESOLVED, that the Legislative Committee consider proposing legislation on this matter.

RESOLUTION NUMBER THREE

WHEREAS, the relationship between the Maryland Pharmaceutical Association and the Maryland Society of Hospital Pharmacists is continuing to improve and

WHEREAS, the Society and Association have now cooperated on a number of joint projects and joint committees and have established liaison with one another

THEREFORE, BE IT RESOLVED, that the Association continue to foster this trend and seek still further methods of developing professional unity on the state level among all of the practice specialties in pharmacy.

RESOLUTION NUMBER FOUR

WHEREAS, the Maryland Pharmaceutical Association now assembled at its 97th Annual Meeting recognizes the approach of the Centennial Anniversary of the Association,

THEREFORE, BE IT RESOLVED, that a Centennial Celebration Planning Committee be appointed to begin the work of coordinating the documentation of the Association's history and plan for special projects and appropriate celebrations to accompany this historic occasion.

RESOLUTION NUMBER FIVE

WHEREAS, time and trial have shown that the practice of requiring the posting of prescription drug prices in community pharmacies has been shown to be of little value to the public, and

WHEREAS, the public does not consult the price poster and often times is confused when the poster is consulted, and

WHEREAS, the pharmacist is a readily available information source on prices of prescription drugs, and

WHEREAS, the proper maintenance of the price poster is cumbersome due to changing prices and may, in fact, actually add to the cost of prescription drugs in Maryland.

THEREFORE, BE IT RESOLVED, that the Maryland Pharmaceutical Association shall work for the repeal or modification of the legislation which requires the posting of prescription drug prices.

RESOLUTION NUMBER SIX

WHEREAS, chronic disease management is a persistent public health problem that requires the attention of all health providers, and

WHEREAS, an increasing number of pharmacists are demonstrating their ability to provide varying levels of care, including monitoring for therapeutic outcome and dosage adjustment, and

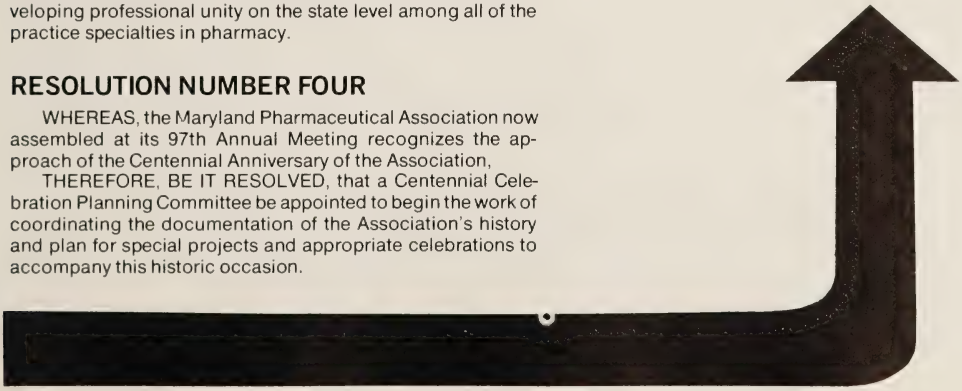
WHEREAS, there are precedents in other states (i.e. North Carolina and California) and other developing professions (i.e. physicians assistants and nurse practitioners) then,

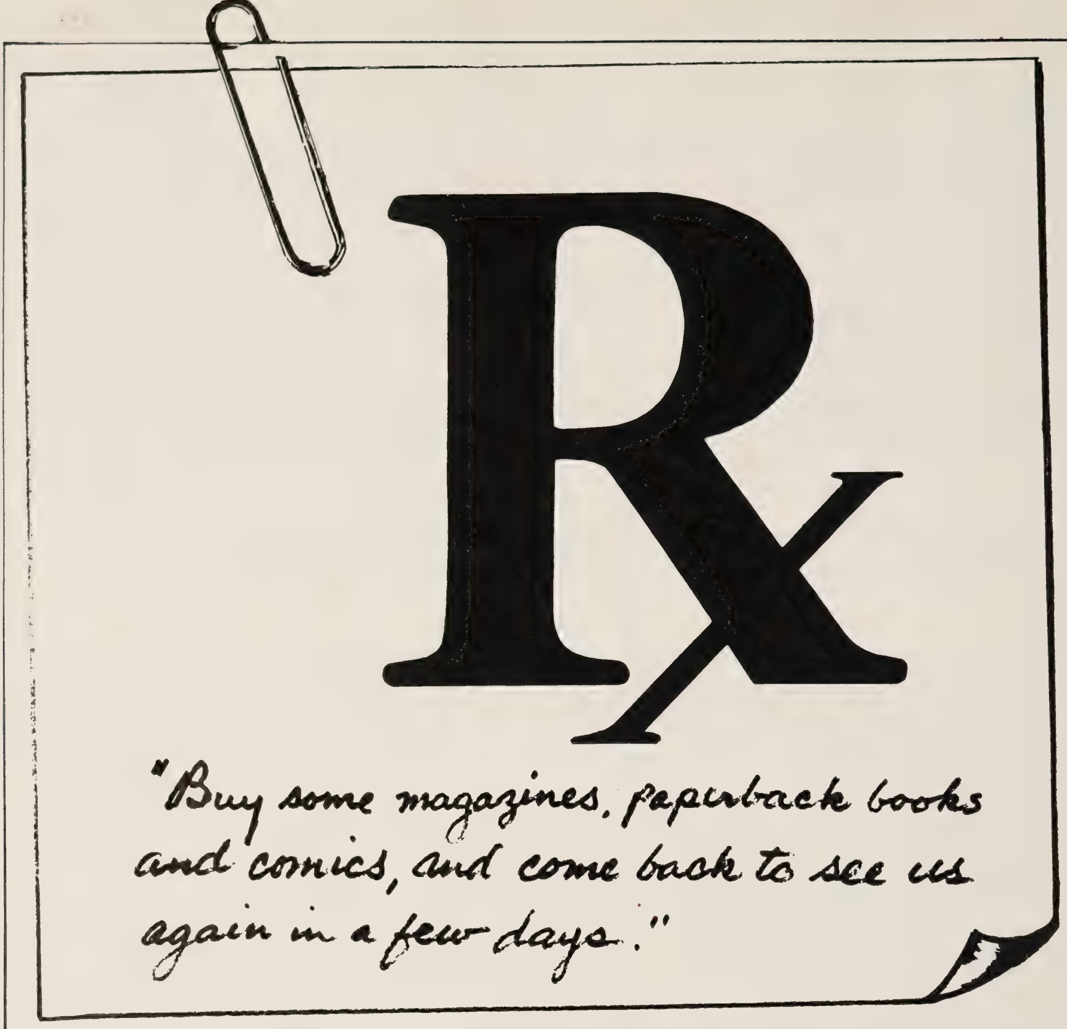
THEREFORE, BE IT RESOLVED, that the MPhA appoint a committee to investigate the feasibility of a pharmacists' prescribing act.

RESOLUTION NUMBER SEVEN

WHEREAS, the officers, delegates and guests of the Maryland Pharmaceutical Association are deeply thankful for the warm cooperation and assistance extended to them during 1978 by Radio Station W.C.A.O.

THEREFORE, BE IT RESOLVED, that the officers and delegates of the Maryland Pharmaceutical Association, request our Executive Director, Mr. David Banta, to send Mr. Joseph Cahill, Manager of Radio Station W.C.A.O. and Station W.X.Y.V. a letter expressing their deep appreciation and sincere thanks to Mr. Cahill for his kindness and generosity to our Association during the past year.

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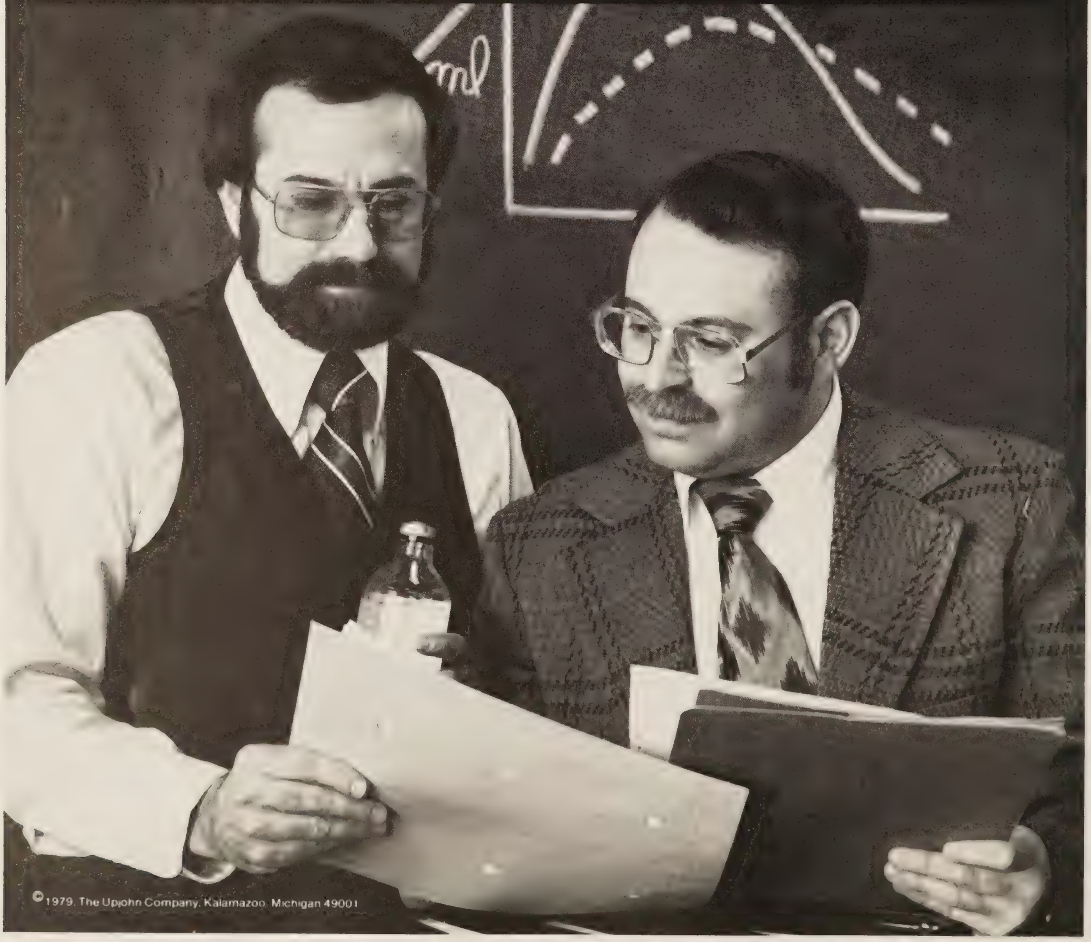

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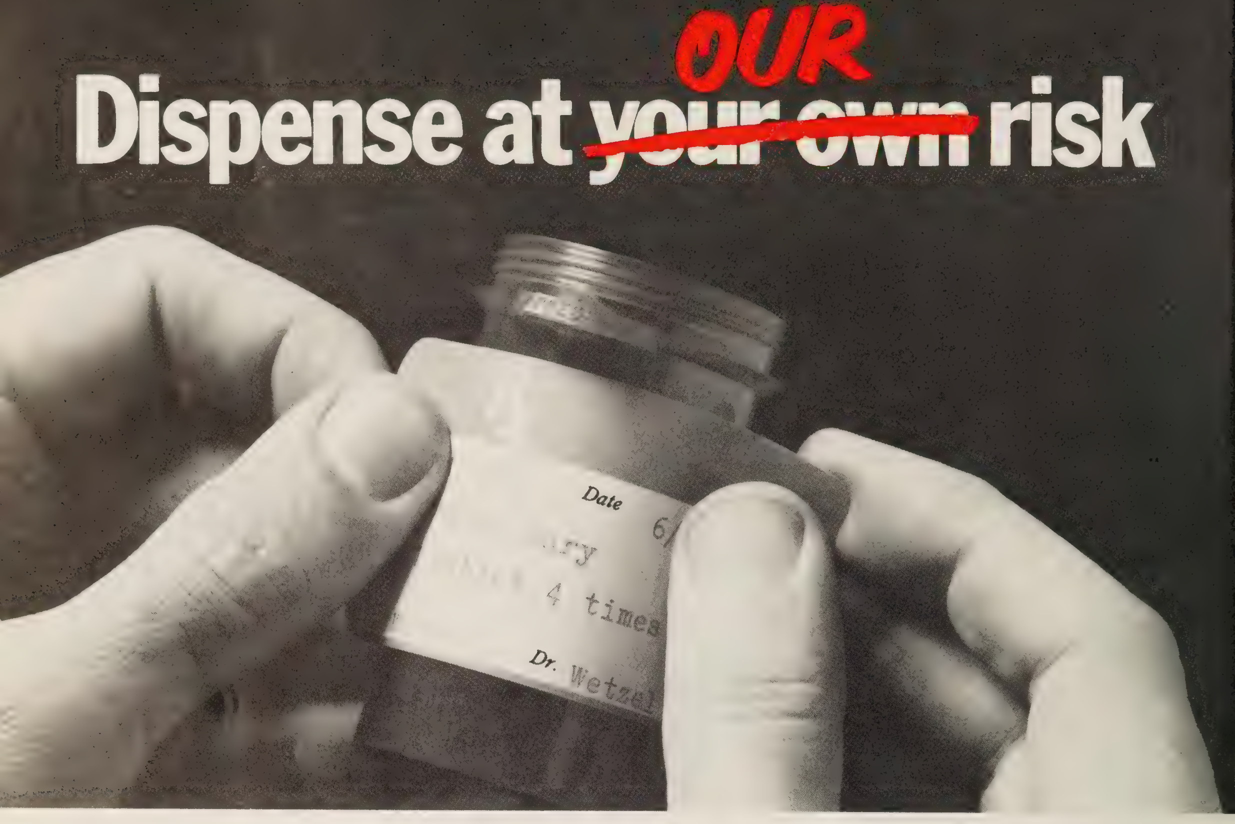

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Official Journal of
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SEPT., 1979
VOL. 55
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1979 Membership Issue

Clinical Evaluation of Butorphanol

–E. Robert Feroli, Pharm.D.

The Evolution of the Prescription

–John C. Krantz, Jr., Ph.D.

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THE UNSUNG HERO

My unsung hero is Joseph Kaufman, the Association's attorney and this year's Honorary President.

In all our lifetimes, we have heard of many people whom we admire and wish we had the privilege of meeting. At a distance, many people seem to be persons we can admire. But many of these people appear to tarnish in our eyes as we get to know more about them. The march of time dulls many heroes.

I feel we have among us a real unsung hero who has done much for pharmacy over many years. His record of accomplishments in our behalf does not tarnish after years, but glows even brighter as time moves forward.

Although Joe is not a pharmacist, he has been associated with pharmacy for many years. After attending City College and the University of Maryland at College Park, he received his LL.B. degree from the University of Maryland School of Law. Joe is known and respected as an outstanding attorney, educator, civic leader and friend.

At our 1979 Convention, Joe was installed as the Honorary President of the MPhA. At that time he was presented with a plaque and it was announced that a scholarship fund had been created in honor of his beloved father, Harry B. Kaufman, who passed away this year.

Joe has always been available to advise and help the MPhA. He is never too busy to answer our questions or to attend a meeting with government officers on our behalf. Without his help, many of our problems with state government would be harder to solve. Joe is a doer, not a talker. When he speaks, however, one should listen.

It is seldom that one has the privilege of meeting a man who gives so much of himself, and asks for nothing in return. I feel that it is, indeed, a personal privilege for me to know Joseph Kaufman.

Ronald A Lubman
RONALD LUBMAN

CLINICAL EVALUATION OF BUTORPHANOL

E. Robert Feroli, Pharm. D.

Drug Information Pharmacist
The Johns Hopkins Hospital

Butorphanol (Stadol®, Bristol) is a parenteral analgesic with narcotic agonist/antagonist properties similar to those seen with pentazocine and nalorphine. When introduced into the market in November of 1978, butorphanol was promoted as a new potent non-narcotic analgesic. The use of the term non-narcotic in this promotion, however, was both misleading and potentially dangerous. The legal definition of a narcotic is a substance which is derived from opium or cocoa leaves. Butorphanol, a totally synthetic product, does not fit this definition and hence by legal definition is a non-narcotic. From a clinical point of view, however, this butorphanol is in fact a narcotic, since it possesses morphine-like activity. This designation of butorphanol as a non-narcotic could also have been potentially dangerous because, in an overdose situation, naloxone (a specific narcotic antidote) might not be considered in the treatment. Because of these problems, Bristol now describes butorphanol as a narcotic analgesic in their most recent package insert.

Butorphanol is claimed by Bristol Laboratories to be an "important new option when potent parenteral analgesics are indicated" and possesses "unsurpassed pain relief", "limited respiratory depressant effect" and "low physical dependence libability". These three purported advantages will be the focus of this review. For an exhaustive review of butorphanol, the reader is referred to the excellent article recently published by Heel, et al.[1]

ANALGESIC PROPERTIES

The efficacy of butorphanol has been firmly established. A summary of studies comparing butorphanol with other potent analgesics can be found in the article written by Heel, et al.[1]

In comparative studies, butorphanol was consistently more potent than the other agents tested. The approximate relative potencies of these agents when given parenterally are:

Butorphanol Tartrate	Morphine Sulfate	Pentazocine Lactate	Meperdine HCl
1.0mg.	5-7mg.	15-25mg.	30-40mg.

The only significance of this finding is that on a milligram for milligram basis, less butorphanol need be given per dose. The onset, peak, and duration of analgesia produced by these agents are similar.

In a study[2] distributed in Bristol's promotional material, butorphanol was found to produce greater pain relief than morphine sulfate. By definition, however, the doses used in the study were not equianalgesic. If dosed appropriately, there is no reason to believe that butorphanol would produce greater pain relief than morphine sulfate.

RESPIRATORY DEPRESSION

Butorphanol is a respiratory depressant. The extent to which it depresses respiration has only been studied in normal healthy volunteers.[3,4,5] Using a carbon dioxide challenge, 2mg. of butorphanol was found to depress respiration to the same extent as 10mg. of morphine sulfate. When the dose of butorphanol was doubled to 4mg., the degree of respiratory depression remained at a level similar to that induced by 2mg. Doubling the dose of morphine sulfate, on the other hand, approximately doubled the respiratory depression.[3] This apparent "ceiling" in the respiratory depression induced by butorphanol is interesting and potentially important. One question remains, however. When used as an analgesic, will butorphanol cause less clinically significant respiratory depression than other opioids? Butorphanol has not been studied in patients with chronic obstructive pulmonary disease (COPD) or in patients in renal or hepatic failure. Until butorphanol has been tested in these and other settings in which significant respiratory depression is clinically important, the relative safety of butorphanol vs. these other agents will remain unclear. It should also be noted that although the degree of respiratory depression does not seem to be dose related, the duration of respiratory depression is dose related.[5]

Another potentially important effect on respiration is the finding that butorphanol,[6,7] like pentazocine,[8] will increase pulmonary vascular resistance. This was measured in patients undergoing diagnostic cardiac catheterization for coronary-artery disease. This action might adversely affect the blood gases in patients with COPD or extend the area of myocardial damage in patients with recent myocardial in-

farctions by increasing cardiac work load. The actual clinical relevance of increased pulmonary vascular resistance induced by butorphanol remains to be clarified.

In summary, butorphanol's effect on pulmonary function has not been demonstrated to offer any advantage over other opioids when these agents are used to relieve pain. The apparent "ceiling" in respiratory depression caused by butorphanol could offer a significant advantage over other opioids but this remains to be established. Interestingly, nalbuphine (Nubain®), another new narcotic agonist/antagonist commercially available from Endo, is also claimed to possess limited respiratory depression.

DEPENDENCE LIABILITY

The majority of studies on butorphanol have been in the short term treatment of postoperative pain. In this setting, the concern of inducing narcotic dependence should be a minor one. In fact, Marks and Sachar[9] showed that in two teaching hospitals, medical inpatients tended to be undertreated with narcotics.

In the long term use of opioids for chronic pain, dependence liability is of more concern. In this setting, butorphanol would offer a significant advantage if it were shown to cause less dependence liability than other narcotics.

Unfortunately, it is too early to reach a conclusion on this issue and further studies are necessary. It should be remembered that pentazocine (an agonist/antagonist narcotic) was also claimed to have a low dependence liability when first introduced. With more widespread use, however, its abuse has increased and was the topic of a recent FDA Bulletin.[11]

SIDE EFFECTS

With the possible exception of respiratory depression (discussed earlier), butorphanol has been found to cause the same incidence of side effects as morphine, meperidine, and pentazocine.

Psychotomimetic side effects including hallucinations and dysphoria, are well documented with pentazocine. The incidence has been reported to be from 1% to as high as 36% and appears to be dose related and more commonly associated with parenteral administration.[12] The incidence of psychotomimetic side effects thus far reported for butorphanol has been less than 1%. It is interesting to note that in comparative studies between butorphanol and pentazocine,[13] [14] [15] [16] [17] there has been no difference in the incidence of this side effect. Whether butorphanol causes a significantly lower incidence of psychotomimetic side effects compared with pentazocine remains to be established.

Butorphanol, like pentazocine, may produce withdrawal symptoms in patients who are physically dependent on narcotics due to its narcotic antagonist properties.

METABOLISM AND FATE

Butorphanol is extensively metabolized in the liver with an elimination half-life in normal individuals of 2.5 to 3.5 hours. The metabolites are excreted in the urine (70%) and bile (11-14%) and approximately 5% of the butorphanol dose is recovered in the urine unchanged. The metabolites were reported to be inactive when injected into mice.[18]

At the present time it would seem prudent to use butorphanol cautiously in patients with hepatic or renal dysfunction because butorphanol has not been studied in these settings.

CONCLUSION

Butorphanol is an effective analgesic which has not been demonstrated to offer any advantage over the existing narcotic analgesics. Final conclusions regarding butorphanol's role in the treatment of pain should, however, await further studies.

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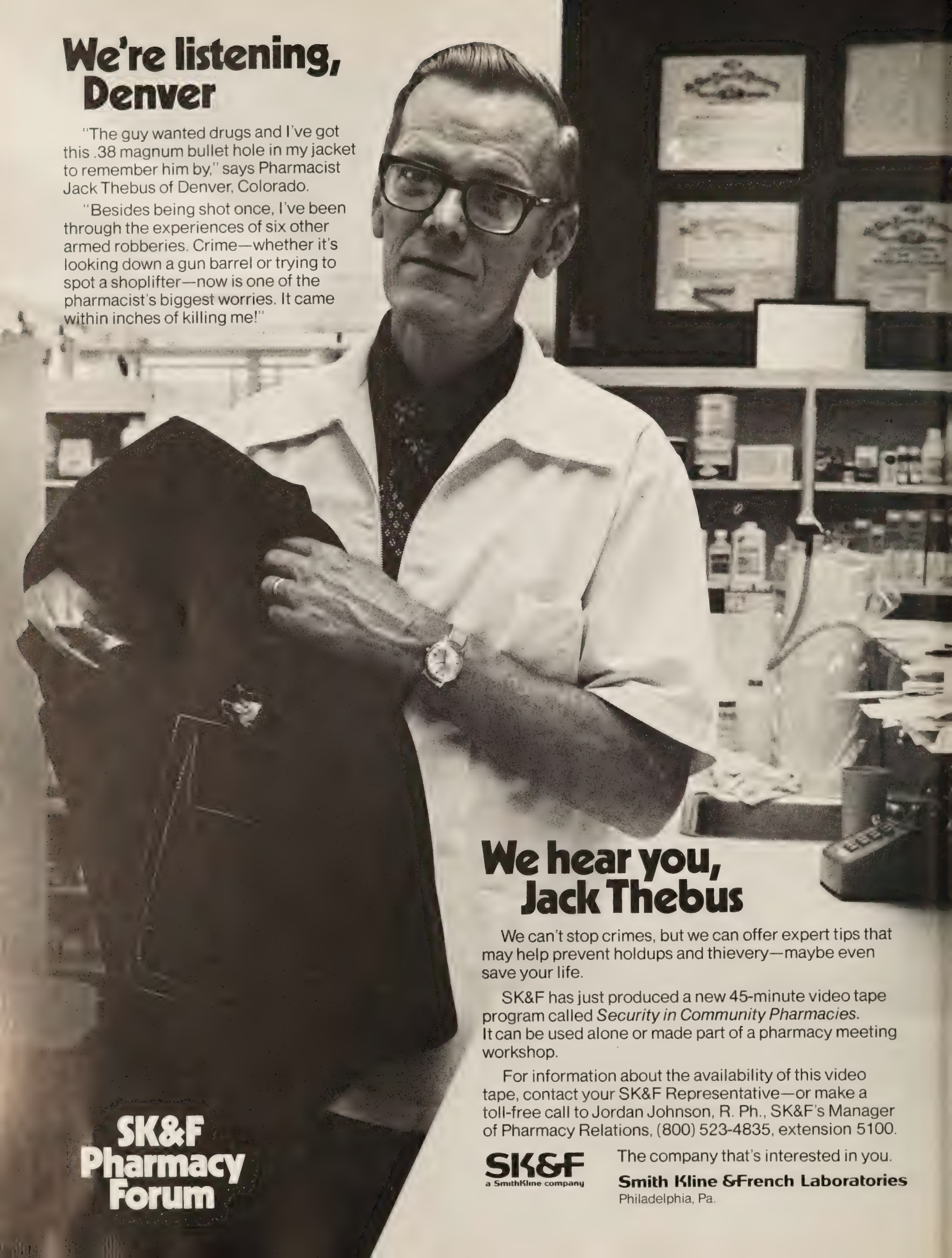
We're listening, Denver

"The guy wanted drugs and I've got this .38 magnum bullet hole in my jacket to remember him by," says Pharmacist Jack Thebus of Denver, Colorado.

"Besides being shot once, I've been through the experiences of six other armed robberies. Crime—whether it's looking down a gun barrel or trying to spot a shoplifter—now is one of the pharmacist's biggest worries. It came within inches of killing me!"



SK&F Pharmacy Forum

We hear you, Jack Thebus

We can't stop crimes, but we can offer expert tips that may help prevent holdups and thievery—maybe even save your life.

SK&F has just produced a new 45-minute video tape program called *Security in Community Pharmacies.* It can be used alone or made part of a pharmacy meeting workshop.

For information about the availability of this video tape, contact your SK&F Representative—or make a toll-free call to Jordan Johnson, R. Ph., SK&F's Manager of Pharmacy Relations, (800) 523-4835, extension 5100.

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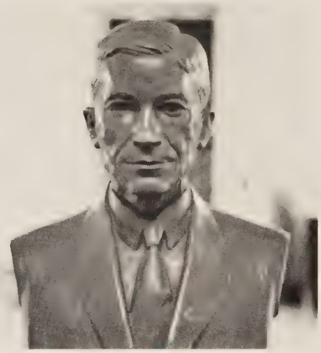

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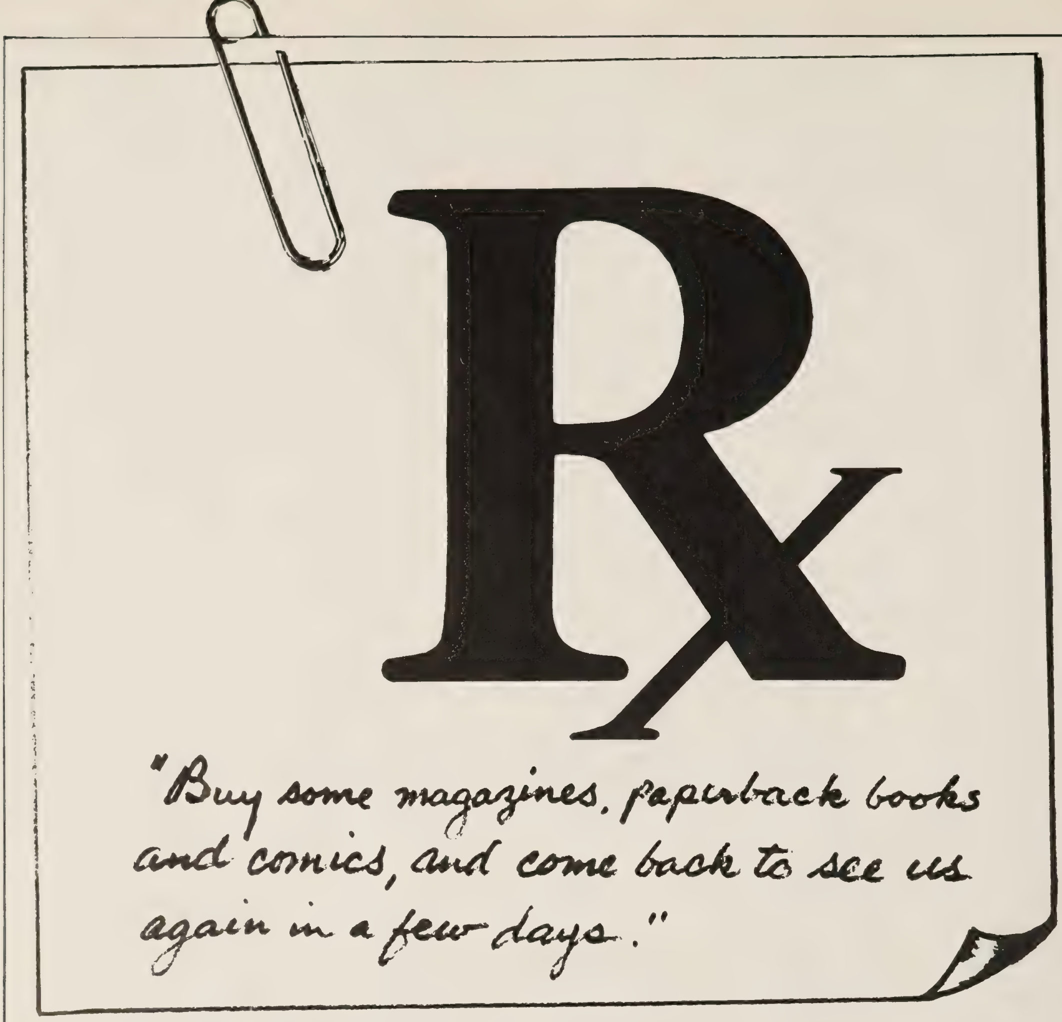

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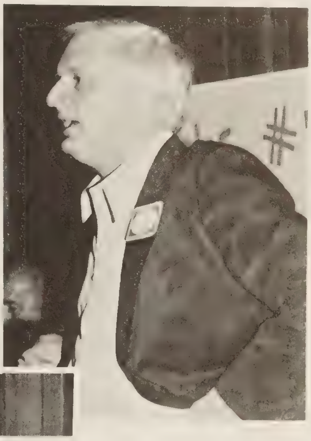
Pharmacists Attend Mayor's Breakfast



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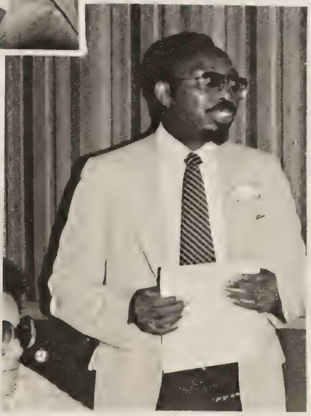

On August 2, 1979, nearly 100 Baltimore Pharmacists turned out to honor Mayor William Donald Schaefer at a breakfast meeting at the Pimlico Hotel. Charles Spiglemire, Chairman of the "Pharmacists for Schaefer Committee" organized the event. Those who spoke at the breakfast included: (left to right) Bernard Lachman, President of the Board of Pharmacy; Ralph Quarles, President of the Baltimore Metropolitan Pharmaceutical Association; Mayor William Donald Schaefer; and Stanley Yaffe, Chairman of the Board of the MPhA.

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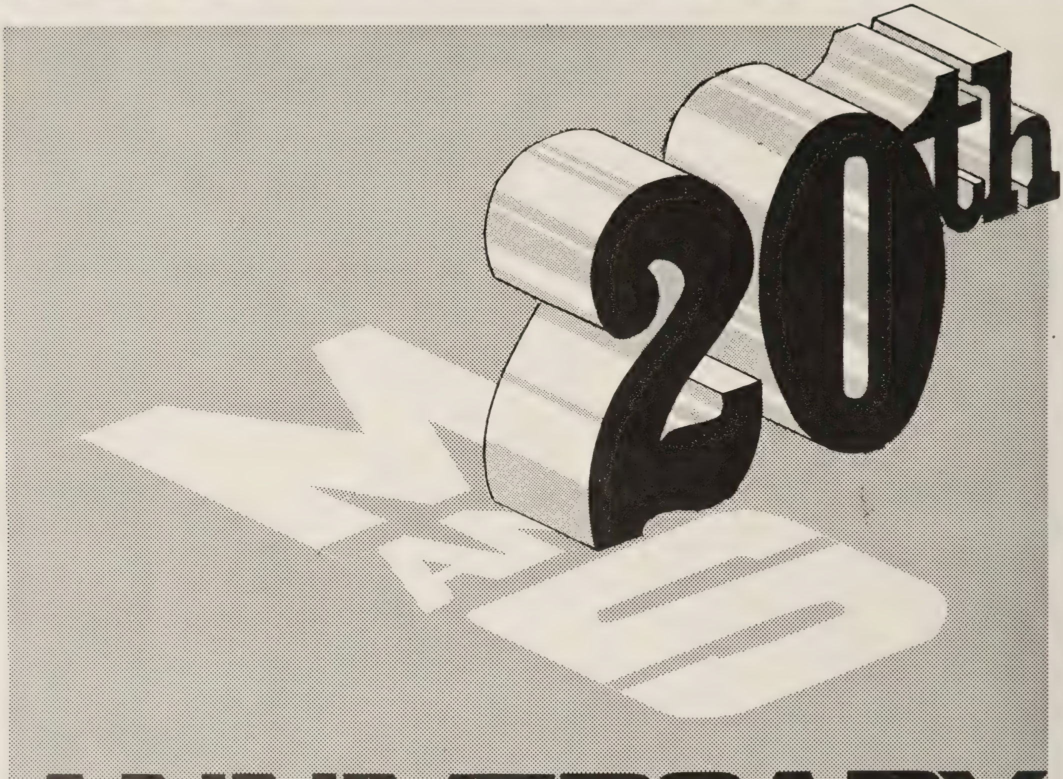

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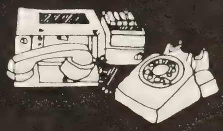

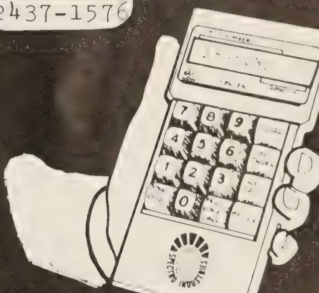

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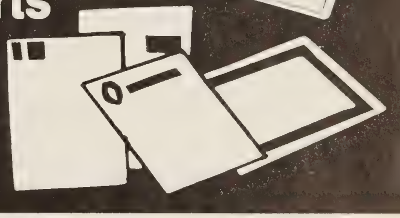

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THE EVOLUTION OF THE PRESCRIPTION

by

John C. Krantz, Jr., Ph.D.
Professor Emeritus
Department of Pharmacology
University of Maryland
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The physician's prescription is one of the most ancient and time-honored documents known to man. Its origin echoed from the biblical lore of the Old Testament when God spoke to Moses, dictating the ingredients of a prescription as follows:

> Moreover the Lord spoke unto Moses saying, take thou also unto thee principal spices, of pure myrrh five hundred shekels, and of sweet cinnamon half so much, even two hundred and fifty shekels, and of cassia five hundred shekels, after the shekel of the sanctuary, and of olive oil an hin: And thous shalt make it an oil of holy ointment, an ointment compound after the art of the apothecary.
>
> EXODUS 30:23-25

From this ancient biblical account, God played the role of the physician and his trusted servant Moses that of the apothecary.

In the Greek legend, Aesculapius, the god of the healing art, delegated to the beautiful Hygeia the duty of compounding his remedies. She was his apothecary. The physician-priests of Egypt were divided into 2 classes, those who visted the sick and those who remained in the temple and prepared the herb concoctions.

In the healing art of ancient Greece there appeared to be a distinct separation between medicine and pharmacy. This condition also prevailed among the Roman practitioners. During the middle ages in Europe there was a marked tendency on the part of the physicians to prepare their own medicines. The Moorish influence in Europe caused a separation of the duties of the two professions. The trend of separation is exemplified by a law enacted by the City Council of Bruges, Belgium in 1683, forbidding physicians to prepare the medicines prescribed for their patients.

In America, Benjamin Franklin was the first individual to effect a separation of the 2 professions. In the Pennsylvania Hospital, he appointed an apothecary, whose sole duties were to compound prescriptions.

During the 19th century in America the prescription was the product of the age of poly-pharmacy through which medicine was passing. Most of the remedies were of herbal origin. Some were potent, but others were of little or no value. What is more, the pharmacologic response of the potent drugs was not well understood for the science of pharmacology had not yet evolved to delineate their finer pharmacologic profiles. The astute Voltaire cogently commented on the materia medica of his day with the following malediction, "Therapeutics is the pouring of a drug of which one knows little into a patient of whom one knows less." Oliver Wendell Holmes recommended the throwing of all the drugs into the sea, predicting that the patients would be better, the fish worse off, for the act. Before the turn of the century a typical prescription written for loss of appetite and mild sedation is as follows:

℞

Sod. Brom ʒ ii

Tr. Nux. Vom ℥ ss

Tr. Gent. C. ℥ i

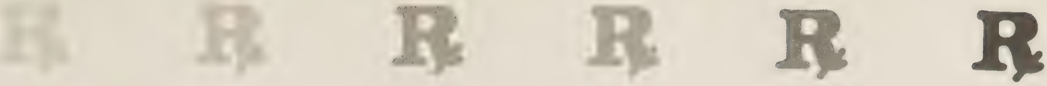
Tr. Cinchona C. q.s. ℥ iv

M.

Sig. ʒ i in aq. t.i.d.a.c.

These poly-pharmacal prescriptions, like the foregoing, contained more than a dozen ingredients in their composition and were frequently unsightly mixtures and far from the elegant pharmaceuticals extant today.

Through the first decades of the 20th century, the poly-pharmacal era, although wavering, continued to embrace most of the physicians' prescriptions. But the science of pharmacology was beginning to have its impact. And what is more, therapeutic nihilists were entering the field of medicine. They were men with a critical view regarding the value of many of the generally used drugs. Outstanding among these physicians was the great Sir William Osler. Osler expressed his view with subtle indirection. Speaking to his students on the wards of the Johns Hopkins Hospital shortly after the dawn of the century he asserted, referring to Cardamom Tincture compound, "Here gentlemen is a very useful drug. It has a beautiful color, pleasant ordor, delectable taste, and although we are convinced that it will do our patient no good, we are equally certain it will do no harm." It is surprising, however, that even Osler was markedly influenced by the poly-pharmacal era. A study of the prescriptions that he wrote in his days at Hopkins reveals 50 different chemicals and extractive herbal preparations.



The age of the poly-pharmacal persisted through World War I. This is indicated by the following prescription (dated 1917) taken from one of the drug store files in the vicinity of the Johns Hopkins Hospital.

℞

Tinc. Opii. Camph. ℥ss

Syrupi Ipecae ʒ [illegible]

Syr. Scillae ʒ [illegible]

Syr. Yerba Santa ℥ss

Aquae q.s. ℥ [illegible]

Msf ʒ ii every 3 hr.

But a revolution was in the making, namely, the rise of carbon chemistry. This was to change every facet of man's life upon this planet and its impelling impact was evidenced by a complete metamorphosis of the prescription. Since 1828, when Wohler synthesized urea, it is estimated that 2 million new chemical compounds, never known to nature, have been prepared by the organic chemist. And this number is increasing at the prodigious rate of 20 to 50 thousand a year. The hormones were isolated and many synthesized, likewise the vitamins and the anti-infective drugs were to occupy positions of pre-eminence in the physician's armamentarium. The change took place with kaleidoscopic rapidity. The *Pharmacopeia* in 1900 contained about 80% vegetable drugs and the remainder chemicals. Half a century later the numbers were reversed and few drugs of vegetable origin are now official in this compendium. This change is manifested in these 2 prescriptions written in 1945:

℞

Sulfadiazine

Sodium Bicarb. aa. gr. xxiv

M. Pulv. No. xii

Sig, One with water t.i.d.

℞

Elixir Thiamine chloride

Sig. i.t.i.d. a.c.

One notes the simplicity of the prescription with the passing of the years. The principal agents prescribed were the systemic anti-infective drugs which include the sulfonamides and antibiotics. The number of the prescriptions for the psychotropic drugs is also very large. Indeed these 2 main categories of prescriptions follow implicitly the pattern of simplicity set by the two foregoing prescriptions written in 1945. The cost of drugs today constitutes a large portion of the overall expenditure for medical care.

The simplicity of the modern prescription has obviated the perplexing phenomenon of chemical and pharmaceutical incompatibility. But therapeutic incompatibility is still with us, stemming from the prescribing of 2 or 3 drugs on separate prescriptions for the same patient. The enhancement of digitalis toxicity, by the use of thiazide diuretics, provoking hypokalemia is a case in point.

The new chemical compounds synthesized by the organic chemist have provided us with drugs to treat satisfactorily diseases for which we had no available drug in the herbal, poly-pharmacal era. These 2 prescriptions make this abundantly clear:

℞

Tab. Hydrochlorthiazide 50 mg.
No. XXX

Sig. One tablet b.i.d. morning and evening.

℞

Cap. Indomethacin 25 mg.
No. L

Sig. One capsule t.i.d.

It is clear that the evolution of the prescription has been of inestimable value in the treatment and cure of disease. The poly-pharmacal prescription had its origin in folklore and empiricism, the modern single prescription is the product of the combined efforts of the organic chemist and the pharmacologist. In most instances the fine pharmacologic profile of drug action at a cellular level has been determined and side effects are well established. The prescription of the poly-pharmacal, herbal era may be compared to a blunt scalpel so dull that it could do no harm — one incapable of doing good, either. Likewise, the modern prescription drug is like the razor edge of the surgeon's scalpel. If used with knowledge and precision, it can do incalcuable good, but without these prerequisites can be the cause of iatrogenic illness. The modern prescription is like the finger of God, it can heal and it can smite.

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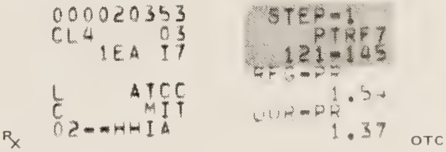

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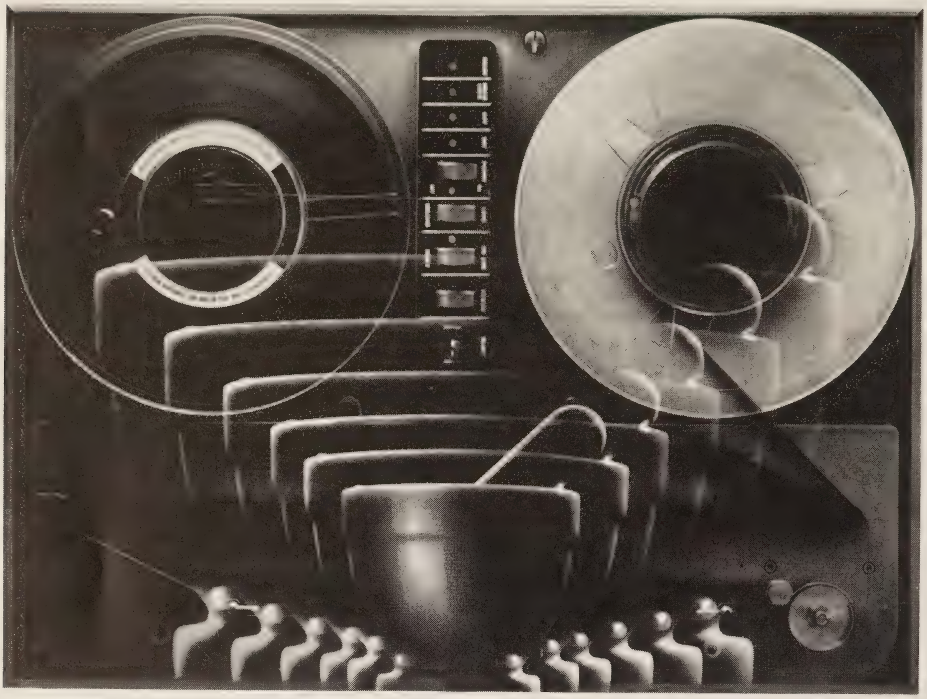


It's where pharmacy is today. And tomorrow's pharmacists are learning about it right now.

Change is constant in the pharmaceutical industry. New classes of drugs are being developed. Computer technology is expanding horizons from research to drug synthesis to final manufacture. New precision equipment is helping to produce consistently reliable products. New marketing techniques are evolving. And new government regulations are being proposed which could affect the way pharmacy is practiced.

These changes are taking place at a rapid pace—so rapid, in fact, that the Pharmaceutical Manufacturers Association has created a unique educational program to help keep pharmacy school faculty, students and practicing pharmacists aware of current industry practices.

THE PMA PHARMACY FACULTY PROGRAM. REACHING THE PROFESSION THROUGH THE PHARMACY PROFESSOR.

Now in its fourth year, the PMA Pharmacy Faculty Program is an invitation to educators to see firsthand what's going on in the pharmaceutical industry. Participants in the program spend two weeks at the facilities of a major pharmaceutical firm, taking part in a series of daily conferences with its scientists and executives. During this time, they get an overview of industry, technology, and approaches associated with research and development, marketing and distribution, production and quality control.

These faculty members can then bring back the knowledge gained to their students in the classroom, and to you, the practicing pharmacist, in continuing education programs.

The PMA Pharmacy Faculty Program. It's one of the things we're doing to help keep the profession up to date on industry operations.

For more information write to: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005, Attention: Dr. John S. Ruggiero.

PMA

Contributing to pharmacy education.

PHARMACEUTICAL MANUFACTURERS ASSOCIATION/1155 FIFTEENTH STREET, N.W./WASHINGTON, D.C. 20005

MSHP ANNUAL MEETING

Ron and Pat Telak at the MSHP Annual Meeting held at Hershey Park, Pennsylvania. Ron is the incoming President of the Society.

Outgoing President David Chason (right) receives the Geigy Achievement Award from Richard Plotkin.

Clarence Fortner (left) was the recipient of the W. Arthur Perdum Award presented by Robert Snyder.

The MSHP Student Achievement Award was won by Mary Jane Eckert and presented by David Chason.

ASHP President Clifford Hynniman addressed the annual meeting.

Newly installed MSHP officers are: (from left to right) Ronald Telak, President; Patrick Birmingham, President-elect; Karen Dempsky, Secretary; David Arrington, Treasurer; And David Chason, Chairman of the Board.

John Bender (center) with his wife, received the Hospital Pharmacist of the Year Award from Dave Chason.

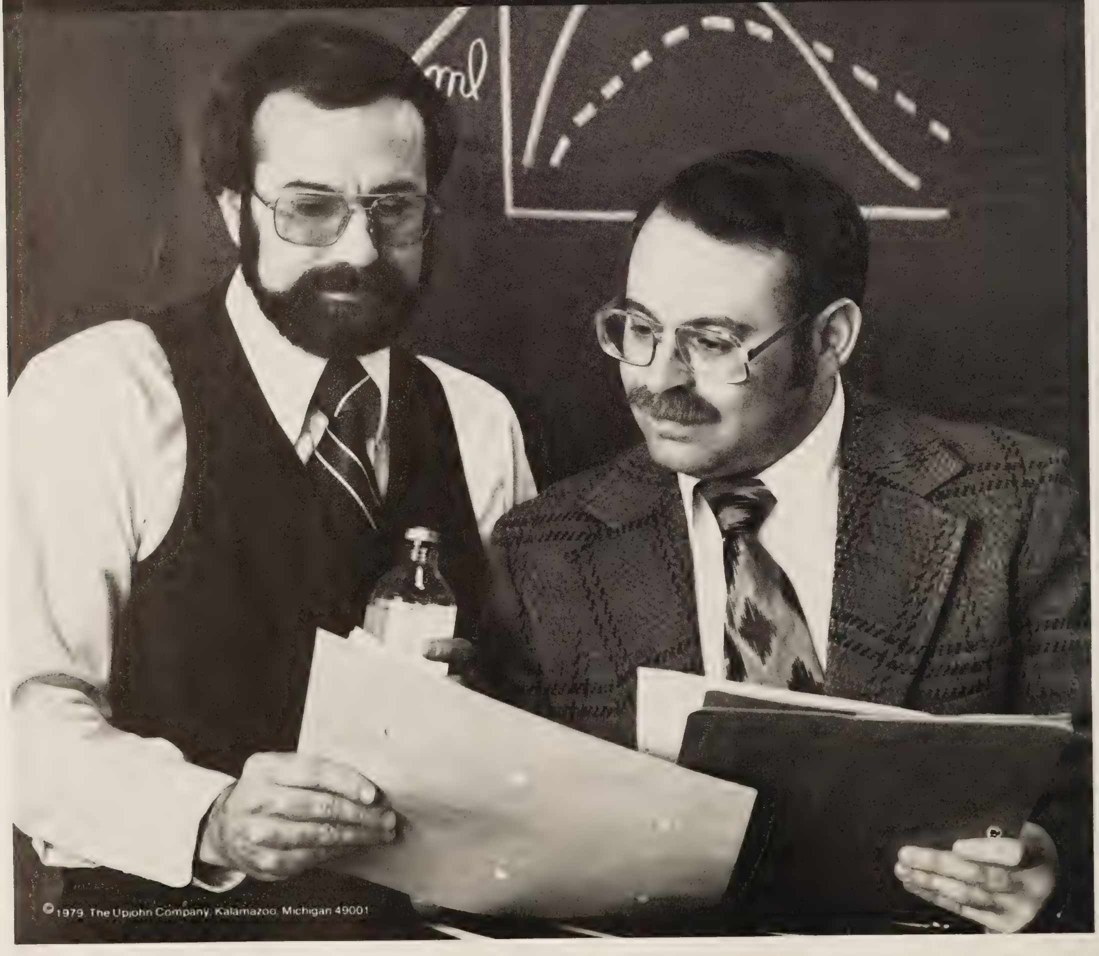
Monte Cohon and Ray Townsend, Pharm. D.'s, operate our Drug Information and Clinical Pharmacy Section of the Medical Bioavailability Unit.

Their job is to give you, your hospital colleagues, and physicians straight answers on the bioavailability, pharmacokinetics, drug interactions, dilution, compatibility and stability of any Upjohn drug. In a hurry, if you need it. They're our, and your answer men.

As pharmacists their great satisfaction is in helping you and the physician make the right decisions for optimal patient care. They and 374 other pharmacists at Upjohn share our common pride at being part of the health care team.

Upjohn

PRESENTING
MONTE AND RAY,
THE ANSWER MEN.



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LETTERS

Dear Dave:

At the Maryland Board of Pharmacy meeting on July 11, 1979 the Board has agreed to adopt the following recommendations relative to expiration dates on the basis of scientific knowledge. The Board felt that these guidelines are in the best interest of both the patient and the practitioner. Our recommendation to the Division of Drug Control will read:

1. that expiration dates on a prescription should be a limit of one year from the time it is dispensed or the expiration date on the original package, whichever is shorter
2. when an original container is dispensed by the pharmacist he may use the expiration date on the label unless in his professional opinion that expiration date is professionally unsound.

I hope that this will help clarify this law for all pharmacists and if there are any questions, please contact the Board at any time.

Sincerely,

Paul Freiman

Paul Freiman, Secretary
Maryland Board of Pharmacy

Dear Mr. Banta:

Thank you for running the will preparation and estate planning notice in the June issue of the *Maryland Pharmacist* on behalf of the University of Maryland at Baltimore.

Any prospective donors to the School which result from the notice will be referred to Dean Kinnard and Mrs. Gaskins, the fund raising consultant for the school.

If nothing else, the appearance of the notice should increase awareness among the pharmacy profession in Maryland of the School and University's interest in voluntary contributions.

Many are unaware that the University benefits from private support. Too few of our citizens realize that if the University had to rely on tax and tuition dollars alone they wouldn't have much of a State university to rely on. (The State provides only one-third of the operational funds.) For example: the educational environment at the School of Pharmacy is enhanced because the School can draw on 24 endowments to fund lectures, scholarships and prizes, book acquisitions, research, fellowships, etc. Some of these gifts came during the lifetime of the donors. Others resulted from deferred gifts.

However, please do not get the impression that the market value of the endowment and the income it generates puts the School of Pharmacy in a plush position. That would be a far from accurate evaluation of the situation for the School or the University. Our endowment resources are modest, almost trivial, when compared to those serving comparable public universities in the Midwest.

Contributions given to the School of Pharmacy without further restriction are equally as important as endowment contributions. "Now money" gives the School the flexibility to respond to emerging challenges and opportunities which can't be anticipated when a budget for State dollars must be drafted ahead of time for any current fiscal year.

A little over a year ago, as a result of Dean Kinnard's initiative, the School launched a school-based annual giving program. We feel its success will continue to grow through direct mail, phonathon and face-to-face solicitation. I know the Dean and Mrs. Gaskins will appreciate any exposure you can provide for their fund-raising programs.

Cordially,

Neil R. Bernstein
Assistant Director

Dear Dave:

It was with interest that I read the letter from the Dean in the July 1979 *Maryland Pharmacist*. However, I would like to correct one part where it said the Board indicates that it would appear that 1,972 candidates will be taking the Board examination in June of this year. The actual figure is 175, which would confirm Dr. Kinnard's thesis about a large number of out-of-state students coming to Maryland to take our exam in addition to the large number of reciprocities.

I hope you will correct this error in the next issue. Thank you.

Sincerely,

Paul Freiman

Paul Freiman
Secretary

Editor's Note: We apologize for the error in the Dean's original letter.

calendar

SEPT. 11 — Alumni Assn. C.E. Program — Ethics in Pharmacy
SEPT. 16 — PG-MC Installation Dinner Dance — Indian Springs
SEPT. 16 — Upper Bay Installation Banquet — Maryland Golf & Country Club
SEPT. 20 — BMPA Meeting — Quality Inn Pikesville
OCT. 7 — Continuing Education Coordinating Council Seminar — "Inflammation: The Discriminate Use of Steroids."
OCT. 16-20 — NARD Convention — Las Vegas (contact office if interested in group travel)
OCT. 25 — MPhA FALL REGIONAL — NEW CONVENTION CENTER
NOV. 4 — Alumni Association — Oyster Roast
JAN. 12-19 — MPhA ARUBA TRIP
FEB. 10 — BMPA Banquet

Every Sunday Morning at 6:15 a.m. listen to Charles Spigelmire on WCAO broadcast the Pharmacy Public Relations Program "Your Good Neighbor," the oldest continuous public service show in Baltimore.

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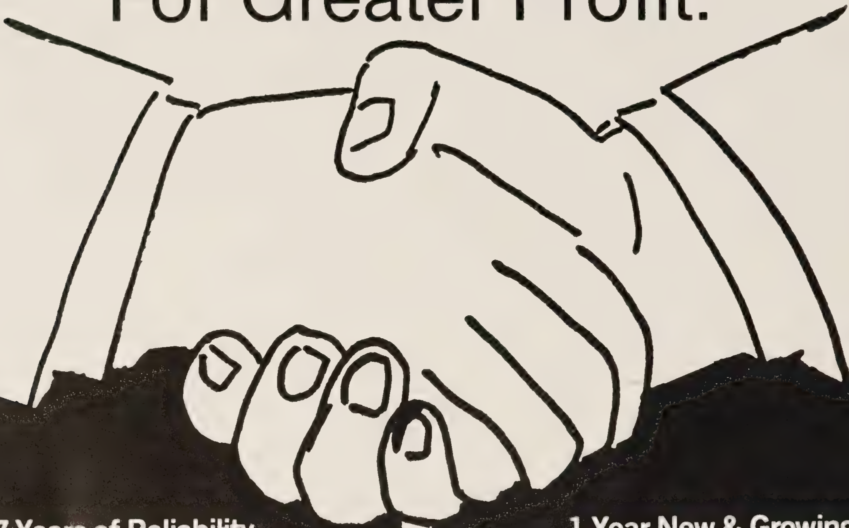

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Cut along dotted line and post in your pharmacy in a prominent place!

Pharmacists Hold The Line on Inflation!

Consumer Price Index for All Urban Consumers: Indexes for Selected Commodities and Services

(1967=100)

Figures Courtesy of U.S. Department of Labor

	November 1960	November 1978	Percentage Change
Meats, poultry, and fish	89.6	218.0	+143.3%
Dairy Products	90.0	193.2	+114.7%
Fruits and Vegetables	86.9	210.4	+142.1%
Medical Care	80.0	227.0	+183.8%
PRESCRIPTION DRUGS	114.9	134.9	+ 17.4%
Gasoline	94.4	203.5	+115.6%
Beauty Parlor Services for Females	83.5	194.0	+132.3%
Footwear	85.3	169.1	+ 98.2%
Refrigerator and Home Freezer	115.7	149.5	+ 29.2%
Consumer Price Index, All Items	89.3	202.0	+126.2%

Classified Ads

Classified ads are a complimentary
service for members.

SITUATION WANTED

PHARMACIST'S GROUP HAS BEEN FORMED TO SUPPLY RELIEF FOR VACATIONS OR EMERGENCIES. FOR FURTHER INFORMATION CALL EITHER LEON LAZARUS, 687-5470, OR JERRY KARPA AT 686-3700.

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For information please contact Jim Kirkwood R.Ph. Director of Professional Placement at 301-825-8355 (out of town call collect) or send resume to:

Jim Kirkwood
3110 Quail Hill Dr.
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804-744-2924

— Part-Time Positions Also Available —

FOLKLIFE IN THE MUSEUM SEPTEMBER 27-30, 1979 NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

Scholars, students, and the general public are invited to a special program on American folk medicine to be held in the Smithsonian's National Museum of History and Technology in Washington, D.C., September 27 to 30.

Demonstrations and exhibits will be located in the Medical Sciences Area of the Museum, and will include presentations by traditional healers, curers, and herbalists. Country doctors, pharmacists, and a maker of "black gum" toothbrushes will be on hand to explain the preparation and uses of salves, teas, ointments, and other folk remedies, as well as to compare the old medical methods and equipment with the new.

All events are free. For more information, the public may call 202-381-6532.

Available from the MPhA Office

- — Notification for the patient under the Drug Product Selection Law.
- — Heart Shaped Stickers — no charge
- — "C" Stamps
- — Information on the Blue Cross/Blue Shield Major Medical Health Insurance Program
- — The Association's Employment Clearinghouse, helping pharmacists and employers find one another.
- — Information on the Aruba Trip, January 12-20, 1980
- — I.C. collection help
- — Pharmaceutical Protector Plan — Comprehensive Insurance for your pharmacy
- — Information on the NEW USP/NF on sale from MPhA.

For these and many other services, contact Sharon at the MPhA Office, (301) 727-0746.

FOR SALE

4 large antique apothecary hanging window globes with chains, 1891 vintage, excellent condition — Call John Lutz, (301) 435-0941.

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(Pharmacists have been ______ long enough)

Cost: $7.00 and it's yours, Tax deductible.
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c/o Wilson Point Pharmacy
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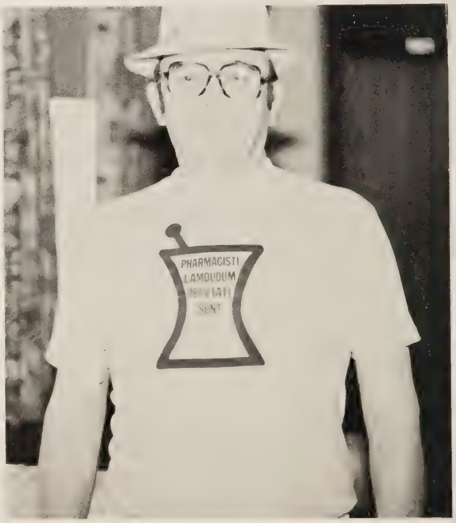
Middle River, Maryland 21220

Photo courtesy of Paramount Photo



Pharmacist Abe Glazer with
PharmPAC tee-shirt

WHEN DID 300 EXPERTS EVER AGREE ON ANYTHING?

Maybe the new USP DI and the established USP-NF have come as close to an agreement as anyone can get.

The information in the comprehensive USP DI, from side effects to patient advice, has evolved through review by over 300 physicians, pharmacists, dentists, and nurses. The new USP DI is the first consensus of its kind.

No other reference comes close to this kind of authority.

But then, no other drug dispensing guide is compiled by the United States Pharmacopeial Convention, the same people who publish the *United States Pharmacopeia* and the *National Formulary*, the legally recognized compendia of standards for drug strength and quality.

And the review process continues. The 1980 *USP Dispensing Information* includes a full year of updates, until the 1981 edition is ready.

Now, for the first time, USP XX and NF XV are being published together in one volume, the 1980 USP-NF. You can even order the complete 1980-84 USP-NF supplements with this one handy form.

Both USP DI and USP-NF will be available January 2. Order now. There's no easier way to get the information you need when you need it most.

USP-NF

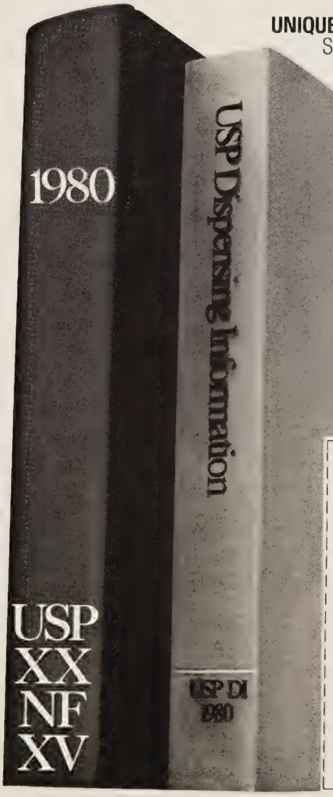
STANDARDS OF QUALITY
Sets forth legally enforceable standards for drug strength, quality, purity, packaging, and labeling.

UNIVERSALLY USED
Assurance that the drug you dispense meets the physician's standards, and yours, because these USP standards are required of all brands.

COMPREHENSIVE
More than 2,300 USP monographs for active ingredients and dosage forms; more than 200 NF monographs for inactive pharmaceutic ingredients.

CRITICAL DATA
Information on drug stability, dosage forms, controlled drug regulations, and child-resistant containers. And, excerpts of antibiotic regulations.

MODERN METHODS
Expanded application of dissolution and pressurized liquid chromatography; thermal automated analysis; limulus test; new standards for prescription and other packaging materials.


1980
USP Dispensing Information
United States Pharmacopeia Dispensing Information
USP XX NF XV
USP DI 1980

USP DI

CROSS-INDEXED
Lists drugs by generic *and* brand names, even by category of use.

UNIQUE CONSULTATION GUIDE
Summarizes dispensing advice in professional and lay language.

CATEGORIES OF USE
Describes the types of drugs and their general use.

PRECAUTIONS
Covers drug interactions, diagnostic interference, medical complications, and much more.

SIDE EFFECTS
Lists selected side effects, and their clinical significance.

DOSAGE INFORMATION
Details dosage forms, preparation, strength, packaging, storage, and labeling.

(Mail to your State Pharmacy Association)

Enclosed is my check or money order for $______ payable to USPC for:

☐ 1980 *Dispensing Information*, with updates, at $15 each ($18.75 after December 15).
☐ 1980 *USP-NF* compendia of drug standards, at $65 each; with supplements, $90 each.
☐ both USP-NF, with supplements, and USP DI, $98 (separately, $108.75 after December 15).

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PA residents add 6% sales tax.

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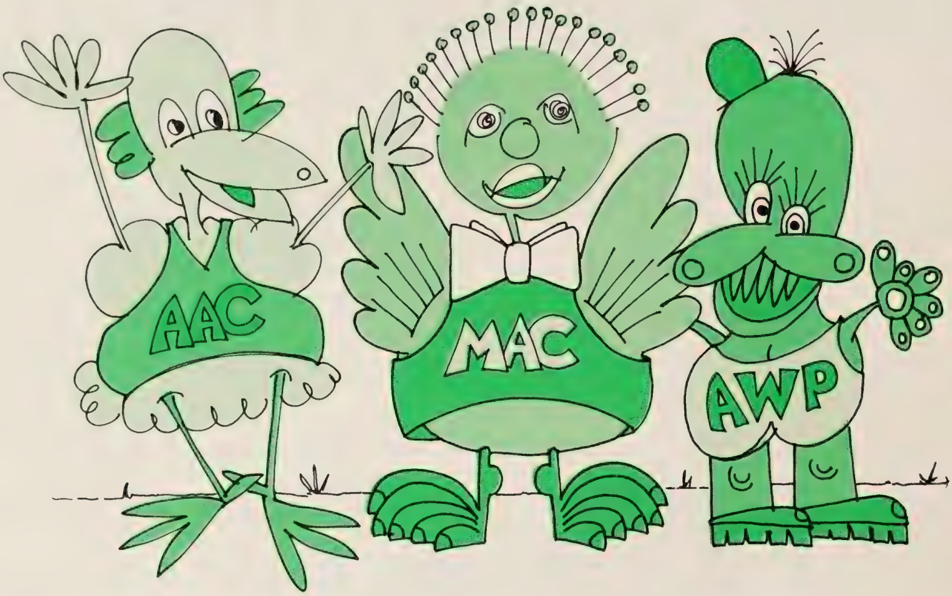
Don't let these "bugaboos" confuse you.



You can receive full and fair reimbursement on your Medicaid prescriptions.

- It's worth re-emphasizing that every participating* state will reimburse for branded TYLENOL® with Codeine Ⓒ (acetaminophen plus codeine) tablets—up to MAC (Maximum Allowable Cost).
- Reimbursement will cover your cost (up to MAC) plus your professional fee for handling and dispensing (as established by each state).
- This is true regardless of AWP (Average Wholesale Price) listings.

  AWP listings are not the standard by which to gauge MAC allowances.
- To determine compensation, consider your actual acquisition cost (AAC)—plus your professional fee.
- It adds up to this: You can dispense TYLENOL with Codeine tablets and receive full and fair reimbursement (up to MAC) for your Medicaid prescriptions year round.
- Although McNeil is not involved in reimbursement, we'd be glad to supply further information. See your McNeil Representative—or write to us.

*Alaska, Arizona and Wyoming do not participate in a federally funded drug reimbursement program.

McNEIL McNeil Laboratories, McNEILAB, Inc., Fort Washington, PA 19034

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THE MARYLAND PHARMACIST

Official Journal of
The Maryland
Pharmaceutical
Association

OCT. 1979
VOL. 55
NO. 10

Manufacturer Disclosure List

New Drug Introductions

Fair Labor Standards Act

Winner, 1979 Sandoz
Medical Journalism Award
for State Pharmacy Journals

THE MARYLAND PHARMACIST

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OCTOBER 1979 **VOL. 55** **NO. 10**

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President's Message

The October 25, 1979 Fall Regional Meeting of the Association is an experiment I hope you will participate in. This year's meeting will begin at 6:00 p.m. at the New Convention Center in Baltimore and is a departure from our normal all-day conferences. We hope we can cover as much material with our programming and, at the same time, attract a number of members to this meeting who have not attended in the past. We are always open to new suggestions about our meeting times and topics. Let the office know how you feel.

The MPhA has filed formal comments with the hearing officer on the FDA's proposal for Patient Package Inserts (see the letters to the editor section). We disagree with the FDA on this approach for a number of reasons.

Recently it has come to our attention that the voluntary patient package insert, started by Lilly with Darvon, may pose an enormous liability for Pharmacists. While the insert is voluntary, the pharmacist who dispenses it has established a standard of practice for that class of drug. This particular insert mentions the trade name over a dozen times and comes across as a marketing tool. These same pharmacists are not probably dispensing similar information with their generic propoxyphene HCL prescriptions. But the standard has been established for Darvon, and should some incident bring this to court, the judge would ask why one brand of the drug would require the patient information and not the other.

On the other hand, there appears to be a liability question if the pharmacist *does not* distribute the voluntary patient package inserts when they are available, especially if all of the other pharmacists in the community are. Once again, pharmacists are caught in the middle of the war between larger forces, and we stand to lose the most.

I would like to make a special point to mention the appointment of a pharmacist to the high position of Commissioner of the Food and Drug Administration. Jere E. Goyan is the Dean at the Pharmacy school at the University of California. His appointment is good news for the profession and should help pharmacy's morale at a time when it badly needs encouraging news.

Ronald A Lubman

RONALD LUBMAN

Manufacturer disclosure

To keep drug product selection a workable concept, Pharmacists need information about the source of the drug products before they purchase them. The California Pharmaceutical Association has written to drug manufacturers and distributors asking them to provide information on which companies actually manufacture the final dosage form. On these pages is the latest information provided to CPhA and is being reprinted with their permission. All information concerning the manufacturers of drug products applies only to those dosage forms and strengths distributed by the companies. The distributor appears on the left and the manufacturer on the right.

DISTRIBUTOR	MANUFACTURER
ACETAMINOPHEN with CODEINE ¼, ½, and 1 gr. Tabs	
Burroughs Wellcome Co.	Burroughs Wellcome Co.
H.R. Cenci Labs	Zenith Labs
Geneva Generics	Cord Labs
Heun/Norwood Labs	Heun/Norwood Labs
McKesson Labs	Danbury Pharmacal
McNeil Labs	McNeil Labs
Parke-Davis	Parke-Davis
Penta Products	Halsey Drug Co.
Philips Roxane	Philips Roxane
Purepac Pharm.	Halsey Drug Co.
Rugby Labs	Halsey Drug Co.
Sheraton Labs	Cord Labs
Smith Kline & French Labs	Philips Roxane
Stayner Corp.	Cord Labs
Towne, Paulsen & Co.	Towne, Paulsen & Co.
Vangard Labs	Heun/Norwood Labs
West-ward	Halsey Drug Co.
Wolins Pharmacal	Blue Cross Products or Zenith Labs
AMINOPHYLLINE 100 and 200mg Tabs	
H.R. Cenci Labs	Richlyn Labs or Cord Labs
Coast Labs	Cord Labs
Columbia Medical Co.*	Richlyn Labs
Geneva Generics	Cord Labs
ICN Pharm.	ICN Pharm.
Invenex Pharm.	Invenex Pharm.
McKesson Labs	Richlyn Labs
Parmed Pharm.	Bowman or Drummer Labs
Penta Products	Halsey Drug (100mg) ICN Pharm. (200mg)
Rugby Labs	Chelsea Labs
Sheraton Labs	Cord Labs
Stanlabs*	Stanlabs
Stayner Corp.	Cord Labs
United. Pharm.*	Richlyn Labs
Vangard Labs	Richlyn Labs
West-ward	West-ward
Wolins Pharmacal	Richlyn Labs or Blue Cross Products
AMITRIPTYLINE HCl 10, 25, and 50mg Tabs	
H.R. Cenci Labs	M.D. Pharm.
Coast Labs	M.D. Pharm.
Geneva Generics	Cord Labs
Hoffmann-La Roche	Hoffman-La Roche
Lederle Labs	Biocraft Labs
McKesson Labs	Barr Labs
Merck Sharp & Dohme	Merck Sharp & Dohme
Parmed Pharm.	Biocraft Labs
Penta Products	Barr Labs
Philips Roxane	Philips Roxane
Rubgy Labs	Chelsea Labs
Sheraton Labs	M.D. Pharm.
Smith Kline & French Labs	Philips Roxane
Stayner Corp	Cord Labs
Vangard Labs	Biocraft Labs
Warner/Chilcott	Warner/Chilcott
West-ward	Cord Labs
Wolins Pharmacal	Biocraft Labs
AMOXICILLIN **125mg Liquid, 250mg Liquid and Caps, and 500mg Caps**	
Beecham Labs	Beecham Labs
Geneva Generics	Pierrel America
Hoffmann-La Roche	Hoffmann-La Roche
Parke-Davis	Parke-Davis
Parmed Pharm.	Biocraft Labs, Pierrel America, or Premo Pharm.
Penta Products	Biocraft Labs
Rexall Drug Co	Biocraft Labs
A.H Robins Co	Biocraft Labs
Rugby Labs	Biocraft Labs
Vangard Labs	Biocraft Labs
Wolins Pharmacal	Biocraft Labs
AMPICILLIN **125 and 250mg Liquid, 125, 250, and 500mg Caps**	
American Pharm. Co.*	Biocraft Labs or Zenith Labs
American Quinine Prod.*	Zenith Labs
Ayerst Labs	Beecham Labs
Beecham Labs	Beecham Labs
Bristol Labs*	Bristol Labs
H.R Cenci Labs	Biocraft Labs
Coast Labs	Mylan Pharm.
Columbia Medical Co.*	Biocraft Labs
ICN Pharm.	Mylan Pharm.
Geneva Generics	Mylan Pharm., Biocraft Labs, or Zenith Labs
CONJUGATED ESTROGENS 0.625, 1.25, and 2.5mg Tabs	
Ayerst	Ayerst
H.R. Cenci Labs	Cord Labs
Coast Labs	Cord Labs
Geneva Generics	Cord Labs
McKesson Labs	Cord Labs
Parmed Pharm.	Cord Labs or Heather Drug. Co.
Penta Products	Barr Labs
Purepac Pharm.	Cord Labs
Rugby Labs	Cord Labs
Sheraton Labs	Cord Labs
Stayner Corp.	Cord Labs
Vangard Labs	ICN Pharm.
West-ward	Cord Labs
Wolins Pharmacal	ICN Pharm. or Heather Drug Co.
DEXAMETHASONE 0.75mg Tabs	
Coast Labs	Cord Labs
Geneva Generics	Cord Labs
Interstate Drug Exchange	Zenith Labs or Danbury Pharm.
Lederle Labs	Barr Labs
McKesson Labs	Cord Labs
Merck Sharp & Dohme	Merck Sharp & Dohme
Parmed Pharm.	Danbury Pharmacal or Carter
Penta Products	Barr Labs
Philips Roxane	Philips Roxane
Rowell Labs	Rowell Labs
Rugby Labs	Chelsea Labs
Schering Corp.	Schering Corp.
Smith Kline & French Labs	Philips Roxane
Stayner Corp.	Cord Labs
Towne, Paulsen & Co.	Towne, Paulsen & Co.
Vangard Labs	Barr Labs
West-ward	West-ward
Wolins Pharmacal	M.D. Pharm. or Zenith Labs
Zenith Labs*	Zenith Labs
DICYCLOMINE 10 and 20mg Tabs or Caps	
H.R. Cenci Labs	Richlyn Labs
Geneva Generics	Barr Labs
Lederle Labs	Barr Labs
McKesson Labs	Danbury Pharmacal
Parmed Pharm.	Bolar Pharm. or Danbury Pharmacal
Penta Products	Barr Labs
Rugby Labs	Chelsea Labs
Sheraton Labs	Chromalloy Pharm.
Stayner Corp.	Chromalloy Pharm. (10mg) Generic Pharm. (20mg)
Towne, Paulsen & Co.	Generic Pharm. or Barr Labs
Vangard Labs	Generic Pharm.
Wolins Pharmacal	Tablicaps, Richlyn Labs, or Generic Pharm.
DIETHYLSTILBESTROL Tabs	
Dome Labs	Dome Labs
Eli Lilly & Co.	Eli Lilly & Co.
Penta Products	Tablicaps
Rugby Labs	Tablicaps
DIGITOXIN 0.1 and 0.2mg Tabs	
Abbott Labs	Abbott Labs
American Pharm. Co.*	American Pharm. Co.
H.R. Cenci Labs	Cord Labs
Columbia Medical Co.*	Zenith Labs
Invenex Pharm.	Invenex Pharm.
Lederle Labs	Barr Labs
Eli Lilly & Co.	Eli Lilly & Co.
McKesson Labs	Barr Labs
Parke-Davis	Parke-Davis
Parmed Pharm.	Zenith Labs
Rugby Labs	Barr Labs or Purepac Pharm.
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Barr Labs
Vangard Labs	Ketchum Labs
West-ward	West-ward
Wolins Pharmacal	Zenith Labs, Barr Labs, or Ketchum Labs
DIGOXIN 0.25mg Tabs	
American Pharm. Co.*	American Pharm. Co.
Burroughs Wellcome Co.	Burroughs Wellcome Co.
H.R. Cenci Labs	Zenith Labs
Columbia Medical Co.*	Blue Cross Products
Lederle Labs	Barr Labs
McKesson Labs	Zenith Labs
Parmed Pharm.	Zenith Labs
Philips Roxane	Philips Roxane
Purepac Pharm.	Rondex Labs
Rugby Labs	Halsey Drug Co.
Smith Kline & French Labs	Philips Roxane
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Barr Labs
Vangard Labs	Zenith Labs
West-ward	West-ward
Wolins Pharmacal	Zenith Labs
DIPHENHYDRAMINE EXPECTORANT Liquid	
H.R. Cenci Labs	H.R. Cenci Labs
Columbia Medical Co.*	Bay Labs
Geneva Generics	Cord Labs
Lederle Labs	National Pharm.
Life Labs*	Life Labs
McKesson Labs	MK Labs
Parke-Davis	Parke-Davis
Parmed Pharm.	Cord Labs
Penta Products	Life Labs
Rugby Labs	Bay Labs, Clay Park Labs, or National Pharm.
Sheraton Labs	Bay Labs
Stayner Corp.	Cord Labs or Chromalloy Pharm.
United Pharm.*	National Pharm.
Vangard Labs	National Pharm.
Wolins Pharmacal	National Pharm., Generic Pharm., Zenith Labs, or Chromalloy Pharm.
DIPHENHYDRAMINE HCl 25 and 50mg Caps	
H.R. Cenci Labs	Cord Labs
Coast Labs	Cord Labs
Columbia Medical Co.*	Barr Labs or Zenith Labs
Geneva Generics	Cord Labs
ICN Pharm.	ICN Pharm.
Invenex Pharm	Invenex Pharm.
Lederle Labs	Barr Labs
Life Labs*	Life Labs
McKesson Labs	MK Labs
Parke-Davis	Parke-Davis
Parmed Pharm	Danbury Pharmacal, Barr Labs, or Zenith Labs

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* No response was received from this company. The information listed has been taken from previous articles.

DISTRIBUTOR	MANUFACTURER
Penta Products	Generic Pharm. or Barr Labs
Philips Roxane	Philips Roxane
Rugby Labs	Chelsea Labs
Sheraton Labs	Chromalloy Pharm. or Generic Pharm
Smith Kline & French Labs	Smith Kline & French Labs
Stayner Corp	Chromalloy Pharm
Towne, Paulsen & Co.	Towne, Paulsen & Co
United Pharm.*	Barr Labs
Vangard Labs	Generic Pharm
West-ward	West-ward
Wolins Pharmacal	National Pharm., Generic Pharm, Zenith Labs, or Chromalloy Pharm

DIPHENOXYLATE HCl 2.5mg Tabs

Rexall Drug Co	M.D. Pharm

DIPHENOXYLATE HCl 2.5mg with ATROPINE SULFATE .025mg

Coast Labs	M.D. Pharm
Geneva Generics	Cord Labs
Lederle Labs	Barr Labs
Mallinckrodt	Mallinckrodt
McKesson Labs	Barr Labs
Penta Products	Barr Labs
Philips Roxane	Philips Roxane
Purepac Pharm	Halsey Drug Co.
Rugby Labs	Chelsea Labs
Sheraton Labs	M.D. Pharm.
Smith Kline & French Labs	Mylan Pharm.
Stayner Corp.	M.D. Pharm. or Mylan Pharm.
Towne, Paulsen & Co.	Barr Labs
Vangard Labs	M.D. Pharm
West-ward	Halsey Drug Co.
Wolins Pharmacal	M.D. Pharm. or Generic Pharm.

DONNATAL Tabs

A.H Robins Co	A.H. Robins Co.

DOXYCYCLINE HYCLATE 50mg Caps

Geneva Generics	Cord Labs
Parmed Pharm	Rachelle Labs
Pfizer Pharm	Pfizer Pharm
Rachelle Labs	Rachelle Labs
Rexall Drug Co.	R.P. Scherer Corp.
Rugby Labs	Rachelle Labs
Stayner Corp	Rachelle Labs
United Pharm.*	Rachelle Labs
Vangard Labs	Rachelle Labs
West-ward	Danbury Pharmacal
Wolins Pharmacal	Rachelle Labs

ERYTHROMYCIN BASE 250 and 500mg Tabs

Abbott Labs	Abbott Labs
Dista Products Co.	Eli Lilly & Co.
McKesson Labs	Reid-Provident Labs
A.H. Robins Co.	A.H. Robins Co.
The Upjohn Co.	The Upjohn Co.
Wolins Pharmacal	Abbott Labs

ERYTHROMYCIN STEARATE 250 and 500mg Tabs

Abbott Labs	Abbott Labs
American Quinine Products*	Zenith Labs
Bristol Labs*	Bristol Labs
H.R. Cenci Labs	Zenith Labs
Coast Labs	Mylan Pharm.
Columbia Medical Co.*	Barr Labs
Dow Pharm.*	Barr Labs
Geneva Generics	Cord Labs
ICN Pharm.	Barre Drug Co.
Lederle Labs	Barr Labs or Mylan Pharm.
Mallinckrodt	Mylan Pharm.
McKesson Labs	Barr Labs (250mg) Mylan Pharm. (500mg)
Parke-Davis	Parke-Davis
Parmed Pharm.	Barr Labs, Zenith Labs Mylan Pharm., or Richie
Penta Products	Barr Labs
Pfipharmecs	Pfizer Pharm.
Philips Roxane	Mylan Pharm.
Rexall Drug Co.	Mylan Pharm.
Rugby Labs	Mylan Pharm.
Sheraton Labs	Mylan Pharm.
Smith Kline & French Labs	Mylan Pharm.
E.R. Squibb & Sons*	E.R. Squibb & Sons
Stayner Corp.	Mylan Pharm.
Towne, Paulsen & Co.	Mylan Pharm.
United Pharm.*	Barr Labs
Vangard Labs	Mylan Pharm.
West-ward	Zenith Labs
Wolins Pharmacal	Zenith Labs or Barr Labs (250mg), Mylan Pharm.
Wyeth Labs*	Mylan Pharm.
Zenith Labs*	Zenith Labs

ESTERIFIED ESTROGENS 0.625, 1.25, and 2.5mg Tabs

Syntex Labs	Syntex Labs

FERROUS GLUCONATE 325mg Tabs

American Pharm. Co.*	Inwood Labs
H.R. Cenci Labs	Cord Labs
Coast Labs	Phoenix Labs or Tablicaps
Columbia Medical Co.*	Bolar Pharm
Geneva Generics	Cord Labs or Tablicaps
Heun/Norwood Labs	Heun/Norwood Labs
Invenex Pharm	Invenex Pharm
Parmed Pharm	Bolar Pharm. or Richlyn Labs
Penta Products	Tablicaps
Rugby Labs	Chelsea Labs
Stanlabs*	Stanlabs
Stayner Corp	Stayner Corp
United Pharm.*	Richlyn Labs
Vangard Labs	Richlyn Labs
West-ward	Richlyn Labs
Wolins Pharmacal	Tablicaps or Richlyn Labs

FERROUS SULFATE 300 and 325mg Tabs

American Pharm. Co.*	Tablicaps
H R. Cenci Labs	Richlyn Labs or Tablicaps
Coast Labs	Phoenix Labs
Columbia Medical Co.*	Tablicaps
Geneva Generics	Cord Labs or Tablicaps
Heun/Norwood Labs	Heun/Norwood Labs
ICN Pharm.	ICN Pharm.
Invenex Pharm.	Invenex Pharm.
Eli Lilly & Co.	Eli Lilly & Co.
Parke-Davis	Parke-Davis
Parmed Pharm.	Richlyn Labs or Inwood
Penta Products	W.T. Thompson
Philips Roxane	Philips Roxane
Rugby Labs	Chelsea Labs
Sheraton Labs	W.T. Thompson or Chromalloy Pharm.
Smith Kline & French Labs	Smith Kline & French Labs
Stanlabs*	Stanlabs
Stayner Corp.	W.T. Thompson
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Richlyn Labs
Vangard Labs	Drummer Labs
West-ward	Standard Pharm.
Wolins Pharmacal	Tablicaps or Richlyn Labs

FLUOCINOLONE ACETONIDE 0.025% and 0.01% Cream

Allergan Pharmaceuticals	Marion Labs
Rugby Labs	Clay Park Labs
Syntex Labs	Syntex Labs

FLURANDRENOLIDE Cream or Ointment

Dista Products Co.	Eli Lilly & Co.
Rugby Labs	Clay Park Labs

GLUTETHIMIDE 0.125, 0.25, and 0.5gm Tabs

H.R. Cenci Labs	Zenith Labs
Coast Labs	M.D. Pharm.
Geneva Generics	Cord Labs
McKesson Labs	Cord Labs
Parmed Pharm.	Lannett Co. or M.D. Pharm.
Rugby Labs	Chelsea Labs
Sheraton Labs	Cord Labs
Stayner Corp.	Cord Labs
USV Pharm.	USV Pharm.
Vangard Labs	M.D. Pharm.
Wolins Pharmacal	M.D. Pharm., Lannett Co., or Danbury Pharmacal

GLUTETHIMIDE 0.5gm Caps

USV Pharm.	USV Pharm.

HYDRALAZINE HCl 25 and 50mg Tabs

H.R. Cenci Labs	Zenith Labs or Richlyn Labs
Ciba Pharm.	Ciba-Geigy Corp.
Geneva Generics	Cord Labs or Zenith Labs
Lederle Labs	Barr Labs
Lemmon Pharmacal	Lemmon Pharmacal
McKesson Labs	Barr Labs
Parmed Pharm.	Premo Pharm. or Zenith Labs
Penta Products	Barr Labs
Purepac Pharm.	Barr Labs
Rugby Labs	Chelsea Labs
Sheraton Labs	Cord Labs
Stayner Corp.	Cord Labs
Towne, Paulsen & Co.	Barr Labs
Vangard Labs	Barr Labs
West-ward	Danbury Pharmacal (25mg) Richlyn Labs (50mg)
Wolins Pharmacal	Danbury Pharmacal, Barr Labs, Zenith Labs, or Premo Pharm.

HYDROCHLOROTHIAZIDE 50mg Tabs

Abbott Labs	Abbott Labs
H.R. Cenci Labs	Zenith Labs or Camall Co.
Central Pharmacal	Camall Co.
Ciba Pharm.	Ciba-Geigy Corp.
Coast Labs	Camall Co.
Geneva Generics	Cord Labs
Lederle Labs	Barr Labs
Lemmon Pharmacal	Reid-Provident Labs
McKesson Labs	Inwood Labs
Merck Sharpe & Dohme	Merck Sharp & Dohme
Parke-Davis	Abbott Labs
Parmed Pharm.	Zenith Labs, Bolar Pharm., or Heather Drug Co.
Penta Products	Barr Labs
Philips Roxane	Philips Roxane
Rexall Drug Co.	Barr Labs
Rugby Labs	Chelsea Labs
Sheraton Labs	Camall Co.
Stanlabs*	Bolar Pharm.
Stayner Corp.	Chromalloy Pharm.
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Generic Pharm.
Vangard Labs	Generic Pharm.
West-ward	West-ward
Wolins Pharmacal	Zenith Labs, Generic Pharm. Chromalloy Pharm., or Camall Co.

HYDROCORTISONE ¼%, ½%, and 1% Cream or Ointment

Barnes-Hind	Barnes-Hind
H.R. Cenci Labs	H.R. Cenci Labs
Columbia Medical Co.*	Ambix Labs
Coast Labs	Chemrich Pharm
Dermik Labs	Dermik Labs
Dome Labs	Dome Labs
E. Fougera & Co.	Byk-Gulden
Geneva Generics	Ambix Labs
Life Labs*	Life Labs
Owen Labs	Owen Labs
Parke-Davis	Parke-Davis
Parmed Pharm.	Biocraft Labs or Pharma Derm
Pasadena Research Labs	Life Labs
Penta Products	Life Labs
Pfipharmecs	Pfizer Pharm.
Rowell Labs	Rowell Labs
Rugby Labs	Clay Park Labs
Sheraton Labs	Ingram Pharm.
Stanlabs*	Stanlabs
Stayner Corp.	Ingram Pharm
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Life Labs
The Upjohn Co.	The Upjohn Co.
Vangard Labs	Schaeffer-Davis
West-ward	Biocraft Labs
Wolins Pharmacal	Schaeffer-Davis or Ambix

IMIPRAMINE 10, 25, and 50mg Tabs

Abbott Labs	Abbott Labs
H.R. Cenci Labs	Bolar Pharm.
Coast Labs	Cord Labs
Geigy Pharm.	Ciba-Geigy Corp.
Geneva Generics	Cord Labs
Lederle Labs	Biocraft Pharm.
Lemmon Pharmacal	K. V. Pharm. Co.
McKesson Labs	Biocraft Pharm.
Parmed Pharm.	Premo Pharm. or Bolar Pharm.
Penta Products	Biocraft Pharm.
Philips Roxane	Philips Roxane
Purepac Pharm.	Bolar Pharm.
A.H. Robins	Biocraft Labs
Rugby Labs	Chelsea Labs
Sheraton Labs	Biocraft Labs
Smith Kline & French Labs	Smith Kline & French Labs
Stayner Corp.	Cord Labs
Towne, Paulsen & Co.	Biocraft Labs
USV Pharm.	Ciba-Geigy Corp.
Vangard Labs	Bolar Pharm.
West-Ward	Biocraft Labs
Wolins Pharmacal	Biocraft Labs

ISONIAZID 100mg Tabs

American Pharm. Co.*	Ormont
H.R. Cenci Labs	Zenith Labs
Columbia Medical Co.*	Zenith Labs
Dow Pharm.*	Dow Pharm.
Eli Lilly & Co.	Eli Lilly & Co.
McKesson Labs	Danbury Pharmacal
Parke-Davis	Parke-Davis
Parmed Pharm.	Zenith Labs or Bolar Pharm.
Penta Products	Barr Labs
Rugby Labs	Chelsea Labs
Sheraton Labs	Stanley Drug Co.
E.R. Squibb & Sons*	E.R. Squibb & Sons
Stanlabs*	Stanlabs
Stayner Corp.	Barr Labs
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Richlyn Labs
Vangard Labs	Danbury Pharmacal
West-ward	West-ward
Wolins Pharmacal	Ormont or Bolar Pharm.

ISOSORBIDE DINITRATE 5 and 10mg Tabs

H.R. Cenci Labs	Zenith Labs
Geneva Generics	Cord Labs
Ives Labs	Ives Labs
Lederle Labs	Cord Labs
McKesson Labs	Danbury Pharmacal
Parmed Pharm.	Bolar Pharm., Zenith Labs, or Barr Labs
Penta Products	Barr Labs
Purepac Pharm.	Purepac Pharm.
Rugby Labs	Chelsea Labs
Sheraton Labs	Cord Labs
Towne, Paulsen & Co.	Cord Labs
Vangard Labs	Zenith Labs
West-ward	West-ward
Wolins Pharmacal	Zenith Labs, Danbury Pharmacal, or Barr Labs

L-DOPA 250mg Caps

Eaton Labs*	Eaton Labs
Geneva Generics	Bolar Pharm.
Hoffmann-La Roche	Hoffman-La Roche

MECLIZINE HCl 12.5 and 25mg Tabs

H.R. Cenci Labs	Zenith Labs or Camall Co.
Coast Labs	Cord Labs or Camall Co.
Geneva Generics	Cord Labs
Lederle Labs	Cord Labs
McKesson Labs	Richlyn Labs
Parmed Pharm.	Bolar Pharm. or Zenith Labs
Penta Products	Cord Labs

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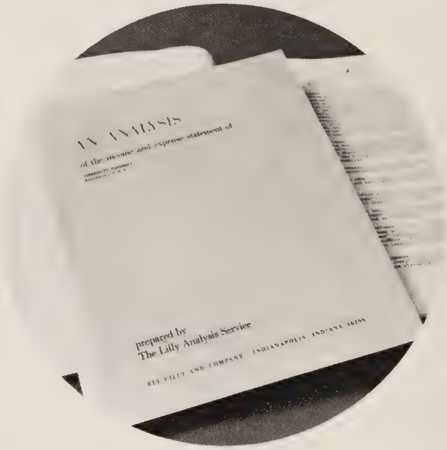
* No response was received from this company. The information listed has been taken from previous articles

Rx For Profit

The Lilly Digest / 1979


AN ANALYSIS
of the income and expense statement of
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The Lilly Analysis Service
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Indianapolis, Indiana 46206

DISTA

Dista Products Company
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

DISTRIBUTOR	MANUFACTURER
Purepac Pharm.	Cord Labs
Roerig	Pfizer Pharm
Rugby Labs	Chelsea Labs
Sheraton Labs	Camall Co.
Stayner Corp.	Cord Labs
Towne, Paulsen & Co.	Generic Pharm. or Danbury Pharmacal
Vangard Labs	Camall Co.
West-ward	West-ward
Wolins Pharmacal	Camall Co., Zenith Labs, or Generic Pharm.

MEPROBAMATE 200 and 400mg Tabs

American Quinine Prod.*	Zenith Labs
H.R. Cenci Labs	Zenith Labs
Coast Labs	Cord Labs
Columbia Medical Co.*	Blue Cross Products
Geneva Generics	Cord Labs
ICN Pharm.	ICN Pharm.
Kirkman Labs*	Barr Labs
Lederle Labs	Barr Labs
Lemmon Pharmacal	Lemmon Pharmacal
McKesson Labs	MK Labs
Parke-Davis	Parke-Davis
Parmed Pharm.	Barr Labs, Richlyn Labs, or Zenith Labs
Penta Products	Barr Labs
Philips Roxane	Philips Roxane
Purepac Pharm.	Purepac Pharm.
Rexall Drug Co.	Barr Labs
Richlyn Labs'	Richlyn Labs
Rugby Labs	Chelsea Labs
Sheraton Labs	Chromalloy Pharm.
Smith Kline & French Labs	Smith Kline & French Labs
Stanlabs*	Stanlabs
Stayner Corp.	Chromalloy Pharm.
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Richlyn Labs
Vangard Labs	Generic Pharm.
Wallace Labs	Carter-Wallace
West-ward	West-ward
Wolins Pharmacal	Blue Cross Products, Zenith Labs, Generic Pharm., or Danbury Pharm.
Wyeth Labs*	Wyeth Labs
Zenith Labs*	Zenith Labs

METHENAMINE MANDELATE 0.5 and 1gm Tabs

H.R. Cenci Labs	Chromalloy Pharm.
Coast Labs	Cord Labs or Tablicaps
Columbia Medical Co.*	Tablicaps
Geneva Generics	Cord Labs
Invenex Pharm.	Invenex Pharm.
Lederle Labs	Cord Labs
McKesson Labs	Cord Labs
Parke-Davis	Warner/Chilcott
Parmed Pharm.	Heather Drug Co.
Penta Products	Cord Labs
Rugby Labs	Tablicaps
Sheraton Labs	Cord Labs or Chromalloy Pharm.
Stanlabs*	Stanlabs
Stayner Corp.	Chromalloy Pharm.
United Pharm.*	Tablicaps
Vangard Labs	Heather Drug Co.
Warner/Chilcott	Warner/Chilcott
West-ward	Standard Pharm.
Wolins Pharmacal	Heather Drug Co. or Tablicaps

NICOTINIC ACID 50 and 100mg Tabs

Abbott Labs	Abbott Labs
American Pharm. Co.*	American Pharm. Co.
H.R. Cenci Labs	H.R. Cenci Labs or Zenith Labs
Columbia Medical Co.*	Generic Pharm.
Heun/Norwood Labs	Heun/Norwood Labs
ICN Pharm.	ICN Pharm.
Invenex Pharm.	Invenex Pharm.
Eli Lilly & Co.	Eli Lilly & Co.
McKesson Labs	MK Labs
Parke-Davis	Parke-Davis
Philips Roxane	Philips Roxane
Rexall Drug Co.	Rexall Drug Co.
Rugby Labs	Chelsea Labs
Sheraton Labs	W.T. Thompson or Stayner Corp.
E.R. Squibb & Sons*	E.R. Squibb & Sons
Stanlabs*	Stanlabs
Stayner Corp.	Stayner Corp.
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Northridge Labs
Vangard Labs	Generic Pharm.
West-ward	West-ward
Wolins Pharmacal	Generic Pharm.

NITROFURANTOIN 50 and 100mg Tabs or Caps

American Pharm. Co.*	Lannett Co.
H.R. Cenci Labs	Zenith Labs
Columbia Medical Co.*	Zenith Labs
Dow Pharm.*	Dow Pharm
Eaton Labs*	Eaton Labs
Geneva Generics	Bolar Pharm. or Zenith Labs
Lederle Labs	Ketchum Labs
McKesson Labs	Pierrel America
Parmed Pharm	Bolar Pharm
Penta Products	Ketchum Labs
Rugby Labs	Bolar Pharm. or Chelsea Labs
Sheraton Labs	Premo Pharm
Stanlabs*	Lannett Co.
Stayner Corp.	Premo Pharm
Towne, Paulsen & Co.	Ketchum Labs
United Pharm.*	Zenith Labs
Vangard Labs	Ketchum Labs (tablets) Bolar Pharm. (caps)
West-ward	Ketchum Labs
Wolins Pharmacal	Bolar Pharm. or Zenith Labs

NYSTATIN Oral Tabs, Suspension, and Vaginal Tabs

Lederle Labs	Lederle Labs
Parmed Pharm.	Premo Pharm.
Rugby Labs	Premo Pharm.
Wolins Pharmacal	Premo Pharm.

ORPHENADRINE HCl Tabs

Riker Labs	Riker Labs

PAPAVERINE HCl 150mg Caps

American Pharm. Co.*	Inwood Labs
H.R. Cenci Labs	Cord Labs
Central Pharmacal	Central Pharmacal
Coast Labs	Cord Labs or Phoenix Labs
Columbia Medical Co.*	Heather Drug Co.
Geneva Generics	Cord Labs
Heun/Norwood Labs	Heun/Norwood Labs
ICN Pharm.	ICN Pharm.
Key Pharm.	Key Pharm.
Lederle Labs	Mylan Pharm.
Lemmon Pharmacal	K.V. Pharm.
Marion Labs	Marion Labs
McKesson Labs	Cord Labs
Parke-Davis	Marion Labs
Parmed Pharm.	Inwood Labs, Heather Drug Co., or Zenith Labs
Penta Products	Generics
Philips Roxane	Cord Labs
Purepac Pharm.	Rondex Labs
Rexall Drug Co.	Mylan Pharm.
Rugby Labs	Chelsea Labs
Sheraton Labs	Chromalloy Pharm.
Stanlabs*	Danbury Pharm.
Stayner Corp.	Chromalloy Pharm.
Towne, Paulsen & Co.	Mylan Pharm. or Cord Labs
United Pharm.*	Zenith Labs
USV Pharm.	USV Pharm.
Vangard Labs	Danbury Pharmacal
West-ward	Danbury Pharmacal
Wolins Pharmacal	Chromalloy Pharm. or Zenith Labs

PHENYTOIN (DIPHENYLHYDANTOIN)

H.R. Cenci Labs	Zenith Labs
Coast Labs	Zenith Labs
Geneva Generics	Lannett Co. or Generic Pharm.
Lederle Labs	Generic Pharm.
McKesson Labs	Zenith Labs
Parke-Davis	Parke-Davis
Parmed Pharm.	Zenith Labs
Penta Products	Generic Pharm.
Rugby Labs	Generic Pharm.
Stayner Corp.	Generic Pharm.
Vangard Labs	Generic Pharm.
West-ward	Zenith Labs
Wolins Pharmacal	Zenith Labs, Lannett Co., or Generic Pharm.

PENICILLIN G 250mg Tabs and 125 and 250mg Liquid

American Pharm. Co.*	Zenith Labs
H.R. Cenci Labs	Biocraft Labs
Coast Labs	Mylan Pharm.
Geneva Generics	Mylan Pharm.
Lederle Labs	Mylan Pharm.
Eli Lilly & Co.	Eli Lilly & Co.
McKesson Labs	Mylan Pharm.
Parke-Davis	Mylan Pharm.
Parmed Pharm.	Biocraft Labs
Penta Products	Biocraft Labs
Pfipharmecs	Pfizer Pharm.
Philips Roxane	Mylan Pharm.
Rexall Drug Co.	Mylan Pharm.
Rugby Labs	Mylan Pharm.
Sheraton Labs	Mylan Pharm.
Smith Kline & French Labs	Mylan Pharm.
E.R. Squibb & Sons*	E.R. Squibb & Sons
Stanlabs*	Biocraft Labs
Stayner Corp.	Mylan Pharm.
Towne, Paulsen & Co.	Mylan Pharm. or Biocraft Labs
United Pharm.*	Biocraft Labs
Vangard Labs	Mylan Pharm.
West-ward	Biocraft Labs
Wolins Pharmacal	Zenith Labs or Mylan Pharm. (tabs), Biocraft Labs
Wyeth Labs*	Wyeth Labs

PENICILLIN V POTASSIUM
250 and 500mg Tabs, 125 and 250mg Liquid

Coast Labs	Mylan Pharm.
Columbia Medical Co.*	Biocraft Labs
Geneva Generics	Mylan Pharm. or Biocraft Labs
ICN Pharm	Zenith Labs
Eli Lilly & Co.	Eli Lilly & Co
McKesson Labs	Mylan Pharm
Parke-Davis	Parke-Davis
Parmed Pharm	Biocraft Labs
Penta Products	Biocraft Labs
Pfipharmecs	Pfizer Pharm
Purepac Pharm	Rondex Labs
Rexall Drug Co.	Mylan Pharm
A.H. Robins Co.	Biocraft Labs
Rowell Labs	Biocraft Labs
Rugby Labs	Mylan Pharm
Sheraton Labs	Mylan Pharm. or Biocraft Labs
Smith Kline & French Labs	Mylan Pharm
E.R. Squibb & Sons*	E.R. Squibb & Sons
Stanlabs*	Biocraft Labs
Stayner Corp	Mylan Pharm
Towne, Paulsen & Co.	Mylan Pharm. or Biocraft Labs
United Pharm.*	Biocraft Labs
The Upjohn Co.	The Upjohn Co
Vangard Labs	Biocraft Labs
West-ward	Biocraft Labs
Wolins Pharmacal	Biocraft Labs or Zenith Labs (tabs), Mylan Pharm. (250mg tabs)
Wyeth Labs*	Wyeth Labs

PENTAERYTHRITOL TETRANITRATE 10 and 20mg Tabs

American Pharm. Co.*	American Pharm. Co.
H.R. Cenci Labs	Zenith Labs
Columbia Medical Co.*	Blue Cross Products
Invenex Pharm.	Strong Cobb Arner
McKesson Labs	Zenith Labs
Parke-Davis	Warner/Chilcott
Parmed Pharm.	Zenith Labs or Bolar Pharm.
Penta Produts	Richlyn Labs
Rugby Labs	Bolar Pharm.
Sheraton Labs	Zenith Labs
Smith Kline & French Labs	Smith Kline & French Labs
Stanlabs*	Stanlabs
Stayner Corp.	Zenith Labs
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Zenith Labs
Vangard Labs	Zenith Labs
Warner/Chilcott	Warner/Chilcott
West-ward	West-ward
Wolins Pharmacal	Bolar Pharm. or Zenith Labs

PHENOBARBITAL 15, 30, 65, and 100mg Tabs

Beecham-Massengill Pharm.	Beecham-Massengill Pharm.
H.R. Cenci Labs	Cord Labs
Central Pharmacal	Central Pharmacal
Columbia Medical Co.*	Richlyn Labs or Blue Cross Products
ICN Pharm.	ICN Pharm.
Invenex Pharm.	Invenex Pharm.
Lederle Labs	Barr Labs
Lemmon Pharmacal	Lemmon Pharmacal
Eli Lilly & Co.	Eli Lilly & Co.
McKesson Labs	MK Labs
Parke-Davis	Parke-Davis
Parmed Pharm.	Zenith Labs or Richlyn Labs
Penta Products	Barr Labs
Philips Roxane	Philips Roxane
Purepac Pharm.	Rondex Labs
Rugby Labs	Marshall Pharm.
Smith Kline & French Labs	Philips Roxane
Stanlabs*	Stanlabs
United Pharm.*	Richlyn Labs
Vangard Labs	Marshall Pharm.
West-ward	West-ward
Winthrop Labs*	Winthrop Labs
Wolins Pharmacal	Danbury Pharm. or Barr Labs
Wyeth Labs*	Wyeth Labs

PHENYLBUTAZONE and ANTACID Caps

Geigy Pharm.	Ciba-Geigy Corp.
Geneva Generics	Pharmadyne Labs
Parmed Pharm.	Premo Pharm.
Rugby Labs	Chelsea Labs
USV Pharm.	Ciba-Geigy Corp.
West-ward	Premo Pharm.

PHENYLBUTAZONE 100mg Tabs

Geigy Pharm.	Ciba-Geigy Corp.
Parmed Pharm.	Premo Pharm.
USV Pharm.	Ciba-Geigy Corp

PILOCARPINE Eyedrops

Allergan Pharm.	Allergan Pharm
Ayerst	Ayerst
Parmed Pharm.	Maurry Biological
Rugby Labs	Ketchum Labs
Sheraton Labs	Ketchum Labs
Wolins Pharmacal	Ketchum Labs

POTASSIUM CHLORIDE Liquid 10% and 20%

Abbott Labs	Abbott Labs
H.R. Cenci Labs	H.R Cenci Labs
Coast Labs	Chemrich Labs
Columbia Medical Co.*	National Pharm
Geneva Generics	Bay Labs
Lederle Labs	National Pharm
Life Labs*	Life Labs
Parke-Davis	Ketchum Labs
Penta Products	Life Labs
Pfipharmecs	Pfizer Pharm
Philips Roxane	Philips Roxane

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* No response was received from this company. The information listed has been taken from previous articles

DISTRIBUTOR	MANUFACTURER
Rugby Labs	Clay Park Labs, Newtron Pharm., or National Pharm.
Sheraton Labs	Anpak
Stanlabs*	Stanlabs
Stayner Corp	Chromalloy Pharm.
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Chromalloy Pharm.
Vangard Labs	National Pharm.
Wolins Pharmacal	National Pharm. or Newtron Pharm.

PREDNISOLONE 5mg Tabs

H.R. Cenci Labs	Zenith Labs
Columbia Medical Co.*	Zenith Labs
Geneva Generics	Cord Labs
ICN Pharm.	ICN Pharm.
Lemmon Pharmacal	Lemmon Pharmacal
McKesson Labs	MK Labs
Parmed Pharm.	Zenith Labs, Danbury Pharm., or Richlyn Labs
Pasadena Research Labs*	Linden Labs
Penta Products	Barr Labs
Pfipharmecs	Pfizer Pharm.
Philips Roxane	Philips Roxane
Rexall Drug Co.	Rexall Drug Co.
Rugby Labs	Chelsea Labs
Sheraton Labs	Chromalloy Pharm.
Stanlabs*	Stanlabs
Stayner Corp.	Cord Labs
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Richlyn Labs
The Upjohn Co.	The Upjohn Co.
Vangard Labs	Generic Pharm.
West-ward	West-ward
Wolins Pharmacal	Ketchum Labs, Generic Pharm., Zenith Labs, or Richlyn Labs

PREDNISONE 5mg Tabs

American Pharm. Co.*	Barr Labs
H.R. Cenci Labs	Richlyn Labs
Central Pharmacal	Central Pharmacal
Columbia Medical Co.*	Richlyn Labs
Dome Labs	Dome Labs
Geneva Generics	Cord Labs or Barr Labs
ICN Pharm.	ICN Pharm.
Kirkman Labs*	Kirkman Labs
Lederle Labs	Lederle Labs
Lemmon Pharmacal	Lemmon Pharmacal
McKesson Labs	MK Labs
Parke-Davis	Parke-Davis
Parmed Pharm.	Richlyn Labs, Heather Drug Co., or Zenith Labs
Penta Products	Barr Labs
Philips Roxane	Philips Roxane
Purepac Pharm.	Rondex Labs
Rexall Drug. Co.	Rexall Drug Co.
Richlyn Labs*	Richlyn Labs
Rowell Labs	Rowell Labs
Rugby Labs	Chelsea Labs
Schering Corp.	Schering Corp.
Sheraton Labs	Chromalloy Pharm. or Cord Labs
Smith Kline & French Labs	Philips Roxane
Stanlabs*	Stanlabs
Stayner Corp.	Chromalloy Pharm.
Towne, Paulsen & Co.	Towne, Paulsen & Co.
The Upjohn Co.	The Upjohn Co.
United Pharm.*	Richlyn Labs
Vangard Labs	Generic Pharm.
West-ward	West-ward
Wolins Pharmacal	Ketchum Labs, Generic Pharm., Zenith Labs, or Richlyn Labs
Zenith Labs*	Zenith Labs

PROBENECID with COLCHICINE Tabs

H.R. Cenci Labs	Richlyn Labs
Lederle Labs	Mylan Pharm.
McKesson Labs	Richlyn Labs
Merck Sharp & Dohme	Merck Sharp & Dohme
Parmed Pharm.	Zenith Labs or Danbury Pharmacal
Penta Products	Danbury Pharmacal
Rugby Labs	Chelsea Labs
Sheraton Labs	Chelsea Labs
Stayner Corp.	Danbury Pharmacal
Towne, Paulsen & Co	Danbury Pharmacal
West-ward	Danbury Pharmacal
Wolins Pharmacal	Richlyn Labs or Zenith Labs

PROBENECID 500mg Tabs

Geneva Generics	Mylan Pharm.
Lederle Labs	Mylan Pharm.
McKesson Labs	Mylan Pharm.
Merck Sharp & Dohme	Merck Sharp & Dohme
Penta Products	Danbury Phrarmacal
Rugby Labs	Mylan Pharm.
Sheraton Labs	Mylan Pharm.
Stayner Corp	Mylan Pharm.
Wolins Pharmacal	Zenith Labs

PROMETHAZINE EXPECTORANT with CODEINE

H.R. Cenci Labs	H.R. Cenci Labs
Geneva Generics	Cord Labs
Lederle Labs	National Pharm.
Lemmon Pharmacal	Lemmon Pharmacal
Life Labs*	Life Labs
Penta Products	Life Labs
Rugby Labs	Halsey Drug Co. or National Pharm.
Sheraton Labs	Bay Labs
Stayner Corp	Cord Labs
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	National Pharm.
Vangard Labs	National Pharm.
Wolins Pharmacal	Bay Labs or National Pharm.

PROMETHAZINE EXPECTORANT PEDIATRIC

H.R. Cenci Labs	H.R. Cenci Labs
Geneva Generics	Bay Labs
Life Labs*	Life Labs
Penta Products	Life Labs
Rugby Labs	Bay Labs or National Pharm.
Sheraton Labs	Bay Labs
Stayner Corp.	Bay Labs
United Pharm.*	National Pharm.
Vangard Labs	National Pharm.
Wolins Pharmacal	National Pharm.

PROMETHAZINE EXPECTORANT with PHENYLEPHRINE

H.R. Cenci Labs	H.R. Cenci Labs
Columbia Medical Co.*	Bay Labs
Geneva Generics	Cord Labs or Bay Labs
Life Labs*	Life Labs
Penta Products	Life Labs
Rugby Labs	Bay Labs or National Pharm.
Sheraton Labs	Chromalloy Pharm.
Stayner Corp.	Chromalloy Pharm.
United Pharm.*	National Pharm.
Vangard Labs	National Pharm.
Wolins Pharmacal	National Pharm.

PROMETHAZINE EXPECTORANT PLAIN

H.R. Cenci Labs	H.R. Cenci Labs
Columbia Medical Co.*	Bay Labs
Geneva Generics	Cord Labs or Bay Labs
Lederle Labs	National Pharm.
Lemmon Pharmacal	Lemmon Pharmacal
Life Labs*	Life Labs
Penta Products	Life Labs
Rugby Labs	Bay Labs or National Pharm.
Sheraton Labs	Bay Labs
Stayner Corp.	Chromalloy Pharm.
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	National Pharm.
Vangard Labs	National Pharm.
Wolins Pharmacal	National Pharm. or Bay Labs

PROPANTHELENE BROMIDE 15mg Tabs

H.R. Cenci Labs	Bolar Pharm.
Coast Labs	Cord Labs
Geneva Generics	Cord Labs or Bolar Pharm.
Lederle Labs	Mylan Pharm.
McKesson Labs	Danbury Pharmacal
Parmed Pharm.	Bolar Pharm., Heather Drug Co., or Danbury Pharmacal
Penta Products	Danbury Pharmacal
Philips Roxane	Philips Roxane
Purepac Pharm.	Purepac Pharm.
Rugby labs	Heather Drug Co or Mylan Pharm.
Sheraton Labs	Cord Labs or Chromalloy Pharm.
Stayner Corp.	Cord Labs
Vangard Labs	Heather Drug Co.
West-ward	Danbury Pharmacal
Wolins Pharmacal	Mylan Pharm. or Danbury Pharmacal

PROPOXYPHENE HCl 65mg Caps

American Quinine Products*	Zenith Labs
H.R. Cenci Labs	Zenith Labs
Coast Labs	Cord Labs
Columbia Medical Co.*	Richlyn Labs
Geneva Generics	Cord Labs or Zenith Labs
ICN Pharm.	ICN Pharm.
Lederle Labs	Lederle Labs
Eli Lilly & Co.	Eli Lilly & Co.
Parke-Davis	Parke-Davis
Parmed Pharm.	Zenith Labs or Richlyn Labs
Penta Products	Barr Labs
Philips Roxane	Philips Roxane
Rexall Drug Co.	Mylan Pharm.
Richlyn Labs*	Richlyn Labs
Rugby Labs	Chelsea Labs
Sheraton Labs	Cord Labs
Smith Kline & French Labs	Smith Kline & French Labs
Stayner Corp.	Chromalloy Pharm.
Towne, Paulsen & Co.	Anabolic or Generic Pharm.
United Pharm.*	Danbury Pharm.
Vangard Labs	Zenith Labs
West-ward	West-ward
Wolins Pharmacal	Zenith Labs, Premo Pharm., or Richlyn Labs
Zenith Labs*	Zenith Labs

PROPOXYPHENE HCl 65mg COMPOUND Caps

H.R. Cenci Labs	Zenith Labs
Coast Labs	Cord Labs
Columbia Medical Co.*	Zenith Labs
Geneva Generics	Cord Labs or Zenith Labs
ICN Pharm.	ICN Pharm.
Lederle Labs	Lederle Labs or Mylan Pharm.
Eli Lilly & Co.	Eli Lilly & Co.
Parke-Davis	Parke-Davis
Parmed Pharm.	Zenith Labs
Penta Products	Cord Labs
Philips Roxane	Mylan Pharm.
Rexall Drug Co.	Mylan Pharm.
Rugby Labs	Chelsea Labs
Sheraton Labs	Cord Labs or Mylan Pharm.
Smith Kline & French Labs	Smith Kline & French Labs
Stayner Corp.	Mylan Pharm.
Towne, Paulsen & Co.	Caribe Chem. Co. or Mylan Pharm.
United Pharm.*	Danbury Pharm.
Vangard Labs	Zenith Labs
West-ward	Caribe Chem. Co.
Wolins Pharmacal	Mylan Pharm., Premo Pharm., Zenith Labs, or Richlyn Labs

QUINIDINE SULFATE 200mg Tabs

H.R. Cenci Labs	Zenith Labs
Geneva Generics	Cord Labs
Key Pharm.	Key Pharm.
Lederle Labs	Barr Labs
Eli Lilly & Co.	Eli Lilly & Co.
McKesson Labs	Danbury Pharmacal
Parke-Davis	Parke-Davis
Parmed Pharm.	Richie, Zenith Labs, or Danbury Pharmacal
Penta Products	Danbury Pharmacal
Philips Roxane	Philips Roxane
Purepac Pharm.	Purepac Pharm.
Rexall Drug Co.	Rexall Drug Co.
Rowell Labs	Rowell Labs
Rugby Labs	Chelsea Labs
Smith Kline & French Labs	Philips Roxane
Stayner Corp.	Chromalloy Pharm.
Towne, Paulsen & Co.	Carnegie Labs
Vangard Labs	Carnegie Labs
West-ward	West-ward
Wolins Pharmacal	Zenith Labs, Blue Cross Products, Danbury Pharmacal, or Chromalloy Pharm.

RESERPINE 0.25mg Tabs

American Pharm. Co.*	Zenith Labs
H.R. Cenci Labs	Zenith Labs
Central Pharmacal	Central Pharmacal
Ciba Pharm.	Ciba-Geigy Corp.
Coast Labs	Cord Labs
Columbia Medical Co.*	Tablicaps
Geneva Generics	Cord Labs or Zenith Labs
ICN Pharm.	ICN Pharm.
Lederle Labs	Danbury Pharmacal
Lemmon Pharmacal	Lemmon Pharmacal
Eli Lilly & Co.	Eli Lilly & Co.
McKesson Labs	MK Labs
Parmed Pharm.	Zenith Labs or Barr Labs
Penta Products	Cord Labs
Philips Roxane	Philips Roxane
Purepac Pharm.	Rondex Labs
Rexall Drug Co.	Rexall Drug Co.
Rowell Labs	Rowell Labs
Rugby Labs	Chelsea Labs
Sheraton Labs	Chormalloy Pharm.
Smith Kline & French Labs	Philips Roxane
E.R. Squibb & Sons*	E.R. Squibb & Sons
Stanlabs*	Stanlabs
Stayner Corp.	Chromalloy Pharm.
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Generic Pharm.
The Upjohn Co.	The Upjohn Co.
Vangard Labs	Generic Pharm.
West-ward	West-ward
Wolins Pharmacal	Generic Pharm., Tablicaps, Chromalloy Pharm., or Zenith Labs

SULFAMETHOXAZOLE and TRIMETHOPRIM DOUBLE-STRENGTH Tablet and Suspension

Burroughs Wellcome Co.	Burroughs Wellcome Co.
Hoffman-La Roche	Hoffman-La Roche

SULFISOXAZOLE 500mg Tabs

American Pharm. Co.*	American Pharm. Co.
H.R. Cenci Labs	H.R. Cenci Labs or Cord Labs
Columbia Medical Co.*	Zenith Labs
Dow Pharm.*	Dow Pharm.
Geneva Generics	Cord Labs
Hoffmann-La Roche	Hoffman-La Roche
ICN Pharm.	ICN Pharm.
Lederle Labs	Mylan Pharm.
McKesson Labs	MK Labs
Parmed Pharm.	Zenith Labs or Bolar Pharm.
Penta Products	Barr Labs
Philips Roxane	Philips Roxane
Rugby Labs	Chelsea Labs
Sheraton Labs	Mylan Pharm.
Smith Kline & French Labs	Smith Kline & French Labs
Stanlabs*	Stanlabs
Stayner Corp.	Cord Labs
Towne, Paulsen & Co.	Dow Chem. or Mylan Pharm.
United Pharm.*	Barr Labs
The Upjohn Co.	The Upjohn Co.
Vangard Labs	Cord Labs
West-ward	West-ward
Wolins Pharmacal	Heather Drug Co., Zenith Labs, or Barr Labs

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* No response was received from this company. The information listed has been taken from previous articles.

DISTRIBUTOR	MANUFACTURER
SULFISOXAZOLE and PHENAZOPYRIDINE	
Geneva Generics	Standard Pharmacal
Hoffman-La Roche	Hoffman-La Roche
Parmed Pharm.	Heather Drug Co
Philips Roxane	Richlyn Labs
Rugby Labs	Standard Pharmacal
Sheraton Labs	Standard Pharmacal
Vangard Labs	Standard Pharmacal
Wolins Pharmacal	Richlyn Labs
TETRACYCLINE HCl 250 and 500mg Caps, Liquid	
American Pharm. Co.*	Caribe Chem. Co. or Mylan Pharm.
American Quinine Products*	Zenith Labs
Bristol Labs*	Bristol Labs
H.R. Cenci Labs	Zenith Labs
Central Pharmacal	Mylan Pharm.
Coast Labs	Rachelle Labs
Columbia Medical Co.*	Richlyn Labs
Dow Pharm.*	Dow Pharm.
Geneva Generics	Barr Labs
ICN Pharm.	ICN Pharm.
Invenex Pharm.	Mylan Pharm.
McKesson Labs	MK Labs
Parke-Davis	Parke-Davis
Parmed Pharm.	Richlyn Labs, Heather Drug Co., or Pierrel America
Penta Products	Richlyn Labs (500mg), Barr Labs
Pfipharmecs	Pfizer Pharm.
Philips Roxane	Mylan Pharm.
Purepac Pharm.	Rondex Labs
Rachelle Labs	Rachelle Labs
Richlyn Labs*	Richlyn Labs
A.H. Robins Co.	A.H. Robins Co.
Rowell Labs	Rachelle Labs
Rucker Pharmacal	Rucker Pharmacal
Rugby Labs	Chelsea Labs
Sheraton Labs	Chromalloy Pharm. or Mylan Pharm.
Smith Kline & French Labs	Mylan Pharm.
E.R. Squibb & Sons*	E.R. Squibb & Sons
Stanlabs*	Heather Drug Co.
Stayner Corp.	Mylan Pharm.
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Richlyn Labs
The Upjohn Co.	The Upjohn Co.
Vangard Labs	Heather Drug Co. (caps), National Pharm. (liquid)
West-ward	West-ward
Wolins Pharmacal	Zenith Labs, Mylan Pharm., Heather Drug Co., Chromalloy Pharm., or Richlyn Labs
Wyeth Labs*	Wyeth Labs
THEOPHYLLINE EPHEDRINE and PHENOBARBITAL	
American Pharm. Co.*	Kasar
H.R. Cenci Labs	H.R. Cenci Labs or Bolar Pharm.
Coast Labs	Cord Labs
Columbia Medical Co.*	Cord Labs
Geneva Generics	Cord Labs or Zenith Labs
Invenex Pharm.	Invenex Pharm. or Cord Labs
Parke-Davis	Warner/Chilcott
Penta Products	Cord Labs
Rugby Labs	Chelsea Labs
Sheraton Labs	Stanley Drug. Co.
Stanlabs*	Stanlabs
Stayner Corp.	Cord Labs
Towne, Paulsen & Co.	Towne, Paulsen & Co.
United Pharm.*	Zenith Labs
Vangard Labs	Danbury Pharmacal (tabs), or National Pharm. (liquid)
Warner/Chilcott	Warner/Chilcott
West-ward	West-ward
Wolins Pharmacal	Drummer Labs or Chromalloy Pharm.
THYROID 30, 65, and 120mg Tabs	
Armour Pharm. Co.*	Armour Pharm. Co.
Columbia Medical Co.*	Generic Pharm.
ICN Pharm.	ICN Pharm.
Invenex Pharm.	Invenex Pharm.
Lederle Labs	Western Research Labs
Lemmon Pharmacal	Lemmon Pharmacal
Eli Lilly & Co.	Eli Lilly & Co.
Marion Labs	Parke-Davis
McKesson Labs	MK Labs
Parmed Pharm.	Richlyn Labs, Heather Drug Co., or Bowman
Penta Products	Barr Labs
Philips Roxane	Philips Roxane
Purepac Pharm.	Rondex Labs
Rexall Drug Co.	Rexall Drug Co.
Rugby Labs	Marshall Pharm. or Chelsea Labs
Stanlabs*	Stanlabs
United Pharm.*	Richlyn Labs
Vangard Labs	Western Research Labs
West-ward	West-ward
Wolins Pharmacal	Generic Pharm. or Chromalloy Pharm.
TRIAMCINOLONE Cream or Ointment	
Geneva Generics	Premo Pharm
Lederle Labs	Lederle Labs
Parmed Pharm.	Medwick Labs
Rugby Labs	Clay Park Labs
Wolins Pharmacal	Premo Pharm
TRIPROLIDINE and PSEUDOEPHEDRINE Tabs and Syrup	
Burroughs Wellcome Co.	Burroughs Wellcome Co
H.R. Cenci Labs	Zenith Labs (tabs), H.R. Cenci Labs (syrup)
Coast Labs	M.D. Pharm.
Geneva Generics	Cord Labs or Bay Labs
Lemmon Pharmacal	Lemmon Pharmacal
Penta Products	Newtron Pharm. (tabs), Life Labs (syrup)
Purepac Pharm	Purepac Pharm. (tabs), Bay Labs (syrup)
Rugby Labs	Chelsea Labs, National Pharm., or Newtron Pharm.
Sheraton Labs	Cord Labs or Chromalloy Labs
Towne, Paulsen & Co.	Danbury Pharmacal
Vangard Labs	M.D. Pharm. (tabs), National Pharm. (syrup)
West-ward	West-ward
Wolins	Zenith Labs and M.D. Pharm. (tabs only), National Pharm. (syrup only), Newtron Pharm.
TRIPROLIDINE and PSEUDOEPHEDRINE with CODEINE EXPECTORANT	
Burroughs Wellcome Co.	Burroughs Wellcome Co.
H.R. Cenci Labs	H.R. Cenci Labs
Geneva Generics	Cord Labs or Bay Labs
Penta Products	Life Labs
Rugby Labs	National Pharm. or Halsey Drug Co.
Sheraton Labs	Bay Labs
Stayner Corp.	National Pharm.
Vangard Labs	National Pharm.
Wolins Pharmacal	National Pharm.
WARFARIN SODIUM Tabs	
Abbott Labs	Abbott Labs
Endo Labs	Endo Labs

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* No response was received from this company. The information listed has been taken from previous articles.

ACA — NARD Offer Cost Analysis Plan

The American College of Apothecaries and the National Association of Retail Druggists, with financial assistance from McNeil Laboratories, have developed a program to assist each individual pharmacist determine his average expense to dispense a prescription. The service is designed to assist the pharmacist (1) determine the average fee necessary to support his practice, (2) develop or revise his prescription pricing system, and (3) adequately explain prescription charges to patients.

With the rising inflation rate and the increasing cost of goods sold, it is essential that pharmacy managers use appropriate economic information to determine prices for providing pharmaceutical services. It is for this reason that the American College of Apothecaries and National Association of Retail Druggists are providing a service to help pharmacy managers analyze their individual prescription pricing information and provide them with their average expense to dispense a prescription. The financial information and data obtained from this analysis will be of significant value as the pharmacy manager constantly reviews pricing policies in a currently competitive market.

The same process has been used to justify fee increases under third party payment programs and to develop equitable fees for pharmacies in several states.

As a professional service to pharmacists, the ACA and NARD will offer this cost to dispense analysis during 1979 for ONLY $25 PER PHARMACY. Many pharmacists have utilized this type service during the past few years for a $50 service charge. Pharmacists are urged to act now to take advantage of this service. To request further information for this service, please contact Kenneth B. Roberts, R.Ph., Ph.D., Associate Executive Director, American College of Apothecaries, 874 Union Avenue, Memphis, Tennessee, 38163.

calendar

Oct. 11 — MSHP Monthly Meeting — St. Josephs Hospital
Oct. 16-20 — NARD Convention — Las Vegas
Oct. 25 — MPhA FALL REGIONAL — NEW CONVENTION CENTER, Baltimore
Nov. 4 — Alumni Association Oyster Roast
Dec. 2 — MPhA BENEFIT DINNER THEATRE "FIDDLER" AT BURN BRAE
Jan. 12-19 — ARUBA with MPhA
Feb. 10 — BMPA Banquet, Bluecrest

Every Sunday Morning at 6:15 a.m. listen to Charles Spigelmire on WCAO broadcast the Pharmacy Public Relations Program "Your Good Neighbor," the oldest continuous public service show in Baltimore.

With more than 10 million chlordiazepoxide HCl scripts per year...

Why do the overwhelming majority of physicians specify Librium®? (chlordiazepoxide HCl)

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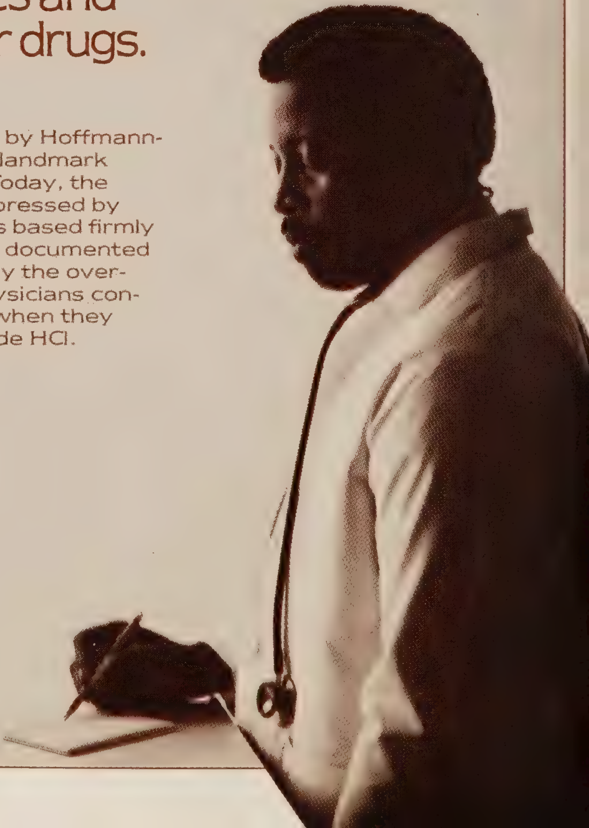
- ☐ Documented experience in actual clinical use
- ☐ Is used concomitantly with primary medications, such as anticholinergics and cardiovascular drugs.

The discovery of Librium by Hoffmann-La Roche represented a landmark in psychotherapeutics. Today, the confidence in Librium expressed by the medical community is based firmly on experience and a well documented clinical record. This is why the overwhelming majority of physicians continue to specify Librium when they prescribe chlordiazepoxide HCl.



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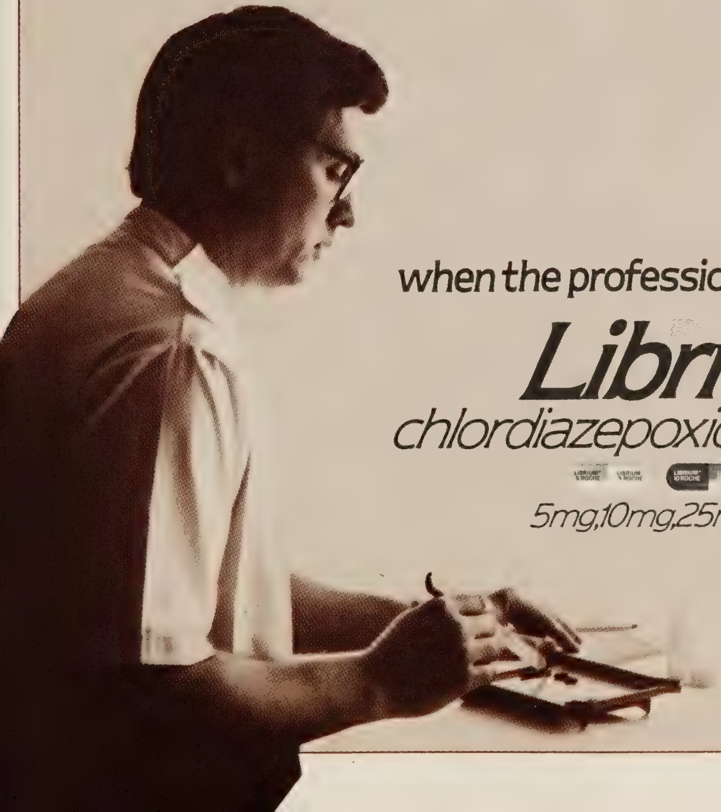

when the professional choice is yours

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chlordiazepoxide HCl/Roche

LIBRIUM 5 ROCHE
LIBRIUM 5 ROCHE
LIBRIUM 10 ROCHE
LIBRIUM 25 ROCHE
LIBRIUM 25 ROCHE

5mg,10mg,25mg capsules

Please see next page for
summary of product information.

Librium® 5mg, 10mg, 25mg capsules
chlordiazepoxide HCl/Roche

Please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states. Efficacy beyond four months not established by systematic clinical studies. Periodic reassessment of therapy recommended

Contraindications: Patients with known hypersensitivity to the drug

Warnings: Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral–Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d.* *Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10. Libritabs® (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable

ROCHE
Roche Products Inc
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Device Reporting Program Expanded to Hospitals

The Medical Device and Laboratory Product Problem Reporting Program (PRP), which is coordinated by the United States Pharmacopeia, has been broadened to allow hospitals to report problems experienced with products. Mailings have been made to hospital administrators explaining the program and requesting that reports be submitted by hospital product safety coordinators. This expansion follows the publication by the American Hospital Association of a booklet entitled, "A Hospital Recall and Reporting System for Medical Devices," which recommends that each hospital establish an in-house reporting system and appoint a product safety coordinator. The booklet also mentions PRP as a method of reporting product problems.

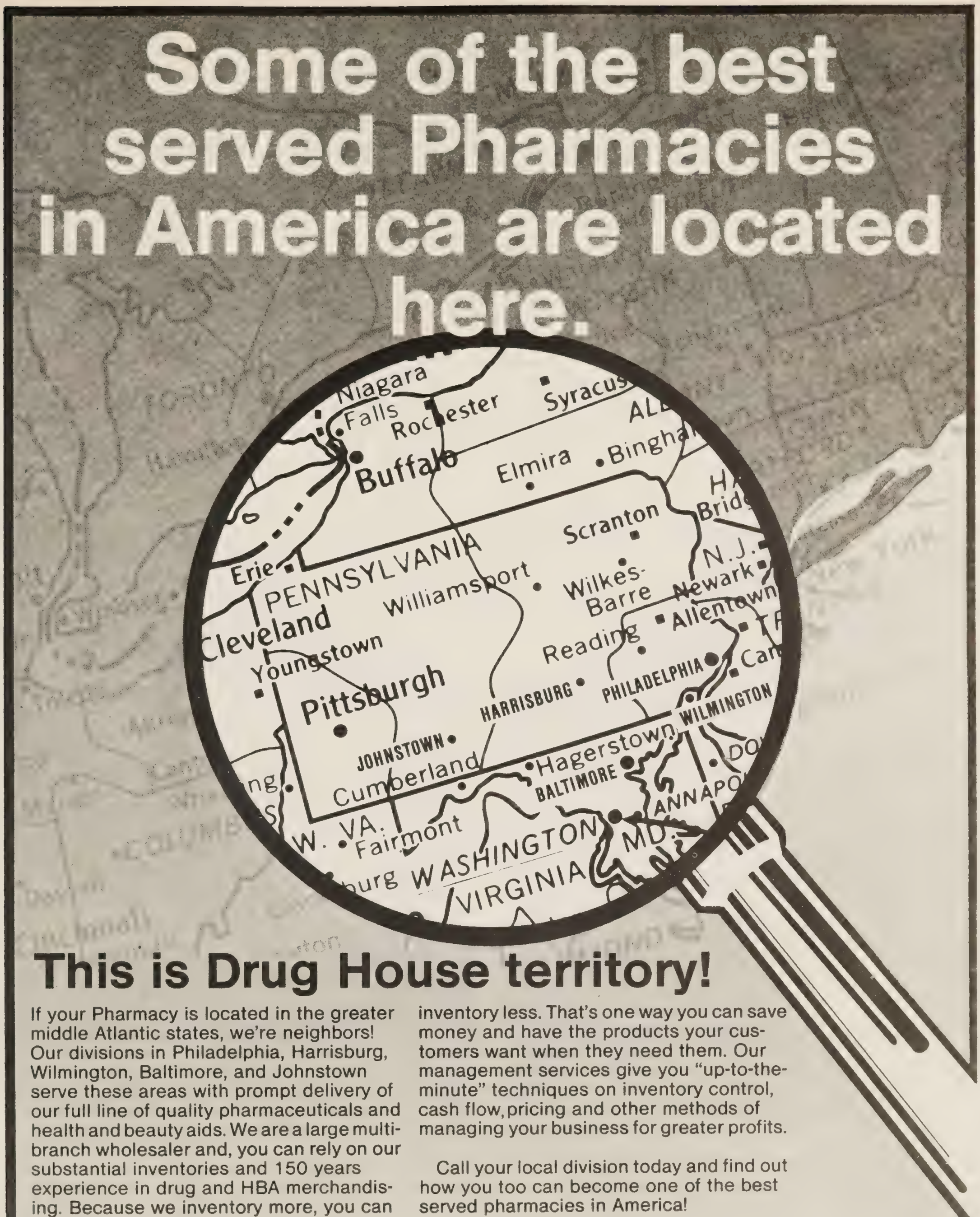
It is hoped that hospitals will choose to incorporate the PRP in their regular in-house reporting procedures, enabling the program to bring the hospitals' concerns together in a central data base that can identify trends in product problems.

The Medical Device and Laboratory Product Problem Reporting Program is a cooperative, voluntary reporting system for health care professionals concerned with the efficacy, safety and quality of medical products. The program is operated by the United States Pharmacopeial Convention and is funded by the Food and Drug Administration. Its participants include sixteen professional associations of medicine, nursing, respiratory therapy, and other health care organizations. PRP is similar to the Drug Product Problem Reporting Program, which pharmacists have used since 1971. Over 42,000 reports have been submitted through the two programs.

Reports received at USP are forwarded to the FDA and to the specific manufacturer concerned for appropriate follow up. The program is product oriented and any problems experienced with products, such as unclear labeling, poor packaging, product breakdown, malfunctioning equipment, inaccurate results, inadequate design, etc., may be reported by writing PRP in care of

Dr. Joseph G. Valentino
The U.S. Pharmacopeial Convention, Inc.
12601 Twinbrook Parkway
Rockville, Maryland 20852

or by calling collect (301) 881-0256. There is no charge to the reporter, hospital or participating association.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PMA Offers "Advice" to Consumers on Consulting With Pharmacists

(The following material is from a flyer distributed by the Pharmaceutical Manufacturer's Association at a recent meeting and is reproduced for the information of Maryland Pharmacists.)

When a consumer questions something about a medication that has been prescribed, the answer should come from one of several different sources:

- the pharmacist who filled the prescription,
- the physician who prescribed the medication,

and, depending on the nature of the question, either the manufacturer or the trade association that represents pharmaceutical manufacturers. For instance, if the consumer wants to ask about:

- what company made the medicine
- the count of dosage units in the container
- the type of container the medicine is in
- the type of closure on the container
- why a particular medicine isn't available
- a variation in price from a previous prescription for the same amount of the same medication, or
- the appearance of the medication

the medication should be taken back to the pharmacist and he/she should be asked to answer these questions. On the other hand, if the consumer wants to ask about:

- the instructions on the container for taking the medicine
- what is in a medicine
- getting more of the same medicine
- results that did, or did not occur from taking the medicine,

the physician should be asked for this information.

If the question has to do with any physical characteristics of the dosage unit itself, or about the information contained on the manufacturer's (not the pharmacist's) label, the consumer might want to write directly to the company that produced it. Unless the pharmacist dispensed the medication in the manufacturer's container, the consumer will have to get this name and address from the pharmacist. (The pharmacist may only be able to supply the name of the distributor, or the packer, however, since the present law requires only the name of either the manufacturer, distributor, or packer to be on the label. Since the company listed is responsible for the product, however, the consumer should be able to get from it whatever further information is wanted.)

In the event that neither the pharmacist nor the physician has the information necessary to answer the consumer's question, and no response is received from the company responsible for the product, the appropriate trade association should be contacted. If the medicine was obtained on a prescription, the association representing many manufacturers of prescription medications is:

Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W.
Washington, D.C. 20005

If the medicine was obtained without a prescription, the association to contact is:

The Proprietary Association
1700 Pennsylvania Avenue, N.W.
Washington, D.C. 20006

The consumer should be sure to include all pertinent information about the specific product in question when writing either to the company or the trade association, i.e. the name of the product, dosage form and strength, where and when purchased, etc. *Be sure your own name and address are included in your letter* (not just on the envelope).

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Auburn University, Auburn, Ala

Nelson E. Taylor, R.Ph
Community Pharmacist
Nampa, Idaho

Arthur Koorhan, R.Ph., Div. V.P.,
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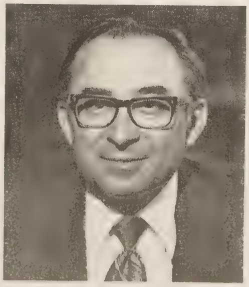
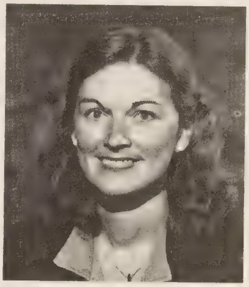

David Zilz, R.Ph., Dir
Pharmacy and Central Service
University of Wisconsin Hospitals
Madison, Wisconsin

Don W. Arthur, R.Ph
Community Pharmacist
Buffalo, New York


Marianne Ivey, R.Ph
Clinical Pharmacist
University of Washington Hospitals
Seattle, Washington

Milton H. Miller, R.Ph
President, Petty Drug Company, Inc
Little Rock, Arkansas

Gary Thudium, R.Ph
Community Pharmacist
Vinton, Iowa

Fred M. Eckel, R.Ph., Asso
Professor of Hospital Pharmacy
Chapel Hill, N.C

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Their views on professional and other pertinent matters are invaluable

Their advice and counsel helps us serve you better in the expanding role of pharmacy

Upjohn

LETTERS

September 7, 1979

The Honorable Harry Hughes
Governor of Maryland
Annapolis, Maryland 21401

Dear Governor Hughes:

I am writing to alert you to a situation which I believe merits your personal attention.

The Maryland Pharmaceutical Association is the State professional society of practicing pharmacists. As such, we have been involved for some time with the issue of equitable reimbursement to pharmacists for services provided under the State's Medical Assistance Program.

Although we realize that you have announced that the next budget year will be one of fiscal restraint, the problem of under-reimbursement to pharmacists for Medicaid prescriptions has reached the critical level. We believe the State government has recognized this problem and wishes to deal with it, but, that a solution will require your personal leadership and direction.

In August 1978, the results of a survey were released which dramatically points out the problem. The survey was conducted by the Department of Budget and Fiscal Planning through the firm of Myers and Stauffer, a well-known accounting firm specializing in dispensing fee surveys. The survey showed that it costs Maryland Pharmacists an average of $2.84 to dispense a prescription. This amount covers the cost of light, heat, rent, salaries and other factors in doing business and providing professional service, but does not include a profit margin. At that time the pharmacy dispensing fee under the Medical Assistance Program was only $2.45. The results of the survey were apparently accepted by the Department of Budget and Fiscal Planning and the Department of Health and Mental Hygiene. Yet at the start of the next fiscal year, July 1, 1979, the pharmacy dispensing fee was increased only 10¢ to $2.55 per prescription. This increase did not even keep pace with the inflation rate that affects pharmacies as it affects every business.

Mr. Jack Kent, Jr., Assistant Secretary for Medical Care Programs in the Department of Health and Mental Hygiene has identified increasing the pharmacy dispensing fee as a priority for action. The Association has agreed to assist the Department of Health and Mental Hygiene and the Department of Budget and Fiscal Planning to provide information in support of this cause. Unfortunately, we find ourselves at the mercy of the budgetary process each year. It has become very frustrating for pharmacists, who have been leaders in holding down the rising costs of health care and inflation year after year, to see their substantiated claims for an increase in the dispensing fee turned away. According to the State's own figures, from a survey which has not received a word of written critical comment, Maryland Pharmacists are entitled to this increase.

I am certain that you receive many letters from special interest groups asking for more from the State. In this case, however, I would like to emphasize the human factor and the potential for great harm if there is not a dramatic adjustment in the medicaid fee. Medicaid prescription business is a growing part of nearly every pharmacist's business. These are health care professionals that are in constant contact with the public; the health resource most often seen by the Maryland consumer. Yet, each year, we witness the accelerating trend in decreasing numbers of independent community pharmacies in Maryland. This is a result of the rapidly increasing costs of doing business and the failure of third party programs, such as the State's Medical Assistance Program, to provide equitable reimbursement. Ultimately the public will suffer from this trend.

We realize how difficult it is to ask you to take a personal hand in this matter now at a time when you have stressed the importance of holding the line on the budget. But we also believe this issue to be of such immediate and grave consequences that your leadership is required.

We would recommend a substantial increase in the pharmacy dispensing fee for the next fiscal year patterned after the results of the Myers and Stauffer Survey with a profit factor included. In future years, we would recommend an automatic increase in the fee based on some mechanism such as the cost of living index.

As it stands now, the Medicaid program has informed us that the next MARC has been cut to allow no increase for pharmacists for fiscal year 1981. We are hopeful that this can be reversed and that we might count on your interest in the preservation of quality pharmaceutical services in the health care system and your personal assistance in this matter.

Sincerely,

David Banta

David A. Banta
Executive Director

Hearing Clerk (HFA-305)
Food and Drug Administration
Dept. of Health & Mental Hygiene
Room 4-56
5600 Fishers Lane
Rockville, Md. 20857

Dear Sir:

The Maryland Pharmaceutical Association is the state professional society of pharmacists in Maryland. We wish to register certain objections to the proposed regulation of the Food and Drug Administration (21CFR Part 203) (docket no. 79N-0186), "Prescription Drug Products; patient labeling."

The Association supports the concept of providing specific information to the patient concerning prescription and non-prescription drugs. We believe that the health care consuming public is better informed than in previous years and is able to play a more active role in therapy through a better understanding of the treatment. Pharmacists have been a primary source for patient information on prescription and non-prescription drugs for patients over the years and we, therefore, are well aware of the benefits that are available to the public when there is an understanding of the medication. As you are undoubtedly aware, the profession of pharmacy has, in recent years, pressed for greater pharmacist/patient communications so that the trend toward a better informed health care consumer can be increased.

However, we have major reservations about the FDA's approach to patient information. By making the distribution of the patient information mandatory, the FDA has effectively eliminated the pharmacist's professional discretion to allow for interpreting the needs of the individual patient for specific information. The FDA seems to be saying that the Patient Package Insert will provide the correct information, at the proper level, in understandable language, in a manner that will be readably usable, for absolutely every individual patient that the pharmacist would serve. Our experience differs from this. Certain patients can accept and make use of more detailed information than others. Certain patients are actually intimidated by too much specific information. Many patients are completely apathetic, and the pharmacist may try to involve the patient to improve compliance with the medication. The point is that, these varying situations are now dealt with by the pharmacist on a daily basis. It is a delicate and important aspect of the pharmacist/patient relationship. Yet the FDA presumes that the PPI will suit every patient's requirement for patient information uniformly with absolutely no potential for harm, misunderstanding, or even misinformation. In other ways, the FDA has shown that it values the pharmacist's opinions and abilities as a health care professional, but in this instance, the FDA completely negates the pharmacist's professional capacity in its headlong rush to fulfill a legitimate patient need with a simplistic and massive panacea. We believe there is more potential for harm than good.

Maryland Pharmacists are further concerned that the FDA has apparently completely ignored a major problem confronting pharmacies and other small business. The on-going White House Conference on Small Business have identified bureaucratic paperwork as one of the factors that is virtually strangling this vital sector of our economy. Pharmacists are already facing an impossible mountain of paperwork mandated by a labyrinth of federal, state and local regulations. It is choking the life from the small business in this country. Without taking the perspective of the practicing pharmacist's total working environment into account, it may be difficult for the FDA to realize that the PPI will, in many cases, become the final paperwork straw that breaks the camel's back. In short, the average pharmacist does not have room in the pharmacy for the filing cabinet you are mandating.

We do not feel qualified to specifically comment on the FDA's estimates of the cost impact upon the average pharmacist. Our impression is, however, that the FDA has probably underestimated what the ultimate economic impact will be. Pharmacists are now fighting for equitable reimbursement from the third party prescription programs that are increasingly becoming the determinant portion of the average pharmacist's business. These third parties already fail to recognize our substantiated costs of doing business and providing professional services to the public. In Maryland, pharmacists have identified under-reimbursement as the primary problem facing them. Third party programs, including the Medicaid programs, have not kept up with our costs over the years and the setting of reimbursement levels appears to be arbitrary and unrelated to showings of cost by the pharmacist or the Association. The FDA's proposal will raise the cost of each prescription by 6.3¢ by the FDA's own figures. This rise in cost to the pharmacist could not come at a more inopportune time. It seems to us that, at the very least, the DHEW would take the next logical step and increase the Federal Medicaid funds to the states to specifically cover the increased cost to pharmacy providers in the Medicaid program. We recommend that the proposed rule be amended to allow pharmacists to use discretion in applying the PPI or alternatives such as the United States Pharmacopeial Convention's Dispensing Information. We believe it is essential that the pharmacist's professional judgement be given the latitude necessary to make available to the patient individualized information as the need is interpreted by the pharmacist and the patient. We believe that many pharmacists will more willingly cooperate with a voluntary approach to this basic need. Voluntary participation by the pharmacist will allow the vital patient/pharmacist relationship to develop. We urge the FDA to join with the professional associations and the schools of pharmacy in the on-going effort to encourage the pharmacist/patient communications link through educational programs.

Our experience with other government "cure-all" approaches leads us to the conclusion that the FDA's attempt in this area will not be nearly as effective as predicted and may, in fact, cause considerable disruption of the progress now being made by pharmacists. We would urge a reconsideration of the role of the FDA in this area. At the very least, a complete study should be made of the mandatory PPI before it is brought out on a national scale. It makes some sense to attempt to identify specific cost benefits to the health care system on a regional scale before committing to a massive program that will be difficult to modify or change due to its own inertia, momentum and bureaucracy.

We appreciate this opportunity to comment on the proposed regulation. We are hopeful that the FDA will take into account the overwhelming reservations which we believe the pharmacy community in this country has expressed, and will redirect its efforts in this area.

Sincerely,

David Banta

David A. Banta
Executive Director

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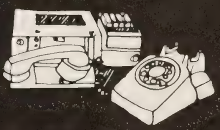

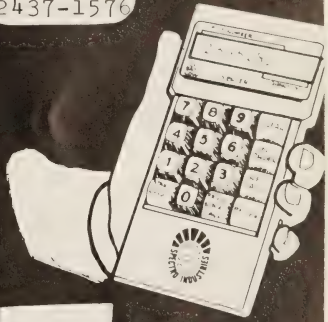

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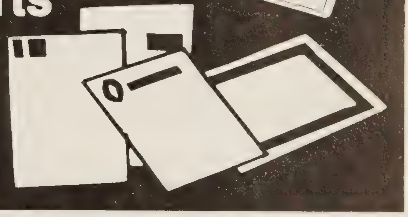

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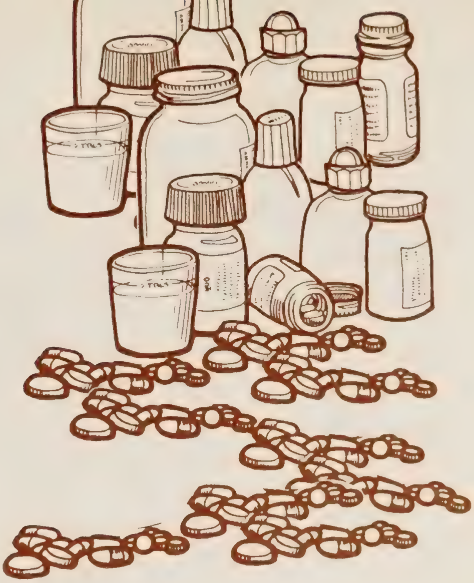

'Selacryn' (ticrynafen) has been introduced by Smith Kline and French Laboratories (pharmaceutical division of Smith Kline Corporation) following marketing approval by the FDA in May 1979. It is a prescription drug to lower blood pressure which also reduces serum uric acid levels. It is prescribed in the initial phases of treatment and for the long-term control of hypertension. Researched and developed by the Anphar Division of Albert Rolland, S.A. of France, ticrynafen has been in use in France since 1976. The drug's effects include urinary and/or renal complications.*

"Nubain' (nalbuphine hydrochloride) researched and developed by Endo Laboratories, Inc. (a DuPont Company subsidiary) was approved for marketing by the FDA in May 1979. An injectable drug, it has the pain killing potency of morphine with a low potential for abuse. Clinical studies have proved the drug particularly effective in postoperative pain relief, obstetric analgesia during labor and in cancer and orthopedic pain relief. The most frequent adverse reaction in 'Nubain' is sedation.*

'Liposyn' (I.V. fat emulsion) made by Abbott Laboratories, North Chicago, Ill., received FDA marketing approval in May 1979. This intravenous fat emulsion is a new product for the treatment and prevention of essential fatty-acid deficiency in hospitalized patients. It is the only fat emulsion that does not require refrigeration. Adverse reactions may relate to types of infusion administered or may be associated with the type of therapy.

'Inderal' (propranolol hydrochloride), a widely-known and widely-prescribed drug for the treatment of moderate to severe angina pectoris, hypertension and cardiac arrhythmias, in February 1979 received additional FDA marketing approval as a chronic migraine preventative. The drug is marketed by Ayerst Laboratories, New York, NY. The new use for 'Inderal' was positively demonstrated in studies involving about 470 migraine sufferers — of whom 59% to 70% experienced prophylaxis of migraines due to the drug. Among adverse reactions are those that may affect the cardiovascular, central nervous, and gastrointestinal systems of the body.*

'MS-2' Automated Microbiology System, a diagnostic instrument which analyzes infections and assesses effectiveness of antibiotics to them, was approved for U.S. clinical use by the FDA in May 1979. It was researched and developed by Abbott Laboratories, North Chicago, Ill. The MS-2 is an advanced device which will aid physicians in identifying the proper antibiotic medication and its dosage form in the treatment of infectious diseases. It will shorten clinical identification and analysis time by up to 18 hours by identifying one or more antibiotics that will halt the growth of organisms in pneumonia, septicemia, burns, wounds and other infections.

'Polycon'® Filafocon A (Contact lens) researched and developed by Syntex Ophthalmics, Phoenix, (a Division of Syntex Laboratories, Inc., Palo Alto, Calif.) is the first oxygen-permeable lens containing silicon, to be marketed in the U.S. Clearance came in January after multi-clinic studies of over 400 patients showed an over 90 percent elimination of such "hard" lens problems as corneal swelling, "spectacle blur," and discomfort. Many spectacle wearers, who for physiological or optical reasons were unable to wear contacts, may be able to wear "polycon" lenses.

'Permalens'® Perfilcon A (Hydrophalic contact lens) the first contact lens designed for extended wear, was approved for U.S. sale by the FDA in June 1979. The lens has been researched and developed by Cooper Laboratories, Inc., Palo Alto, Calif. Consisting of 71% water, the lens transmits substantially more oxygen than conventional hard or soft contact lenses. Thus the Permalens contacts may be worn on a 24-hour basis for up to 1 month at a time, or longer if so prescribed by the doctor. Approved now for post cataract patients, the lens will benefit aphakic people who cannot adjust to thick, heavy spectacle lenses or the daily regimen of putting on and taking off conventional contact lenses.

Thank You

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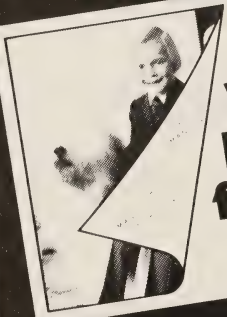

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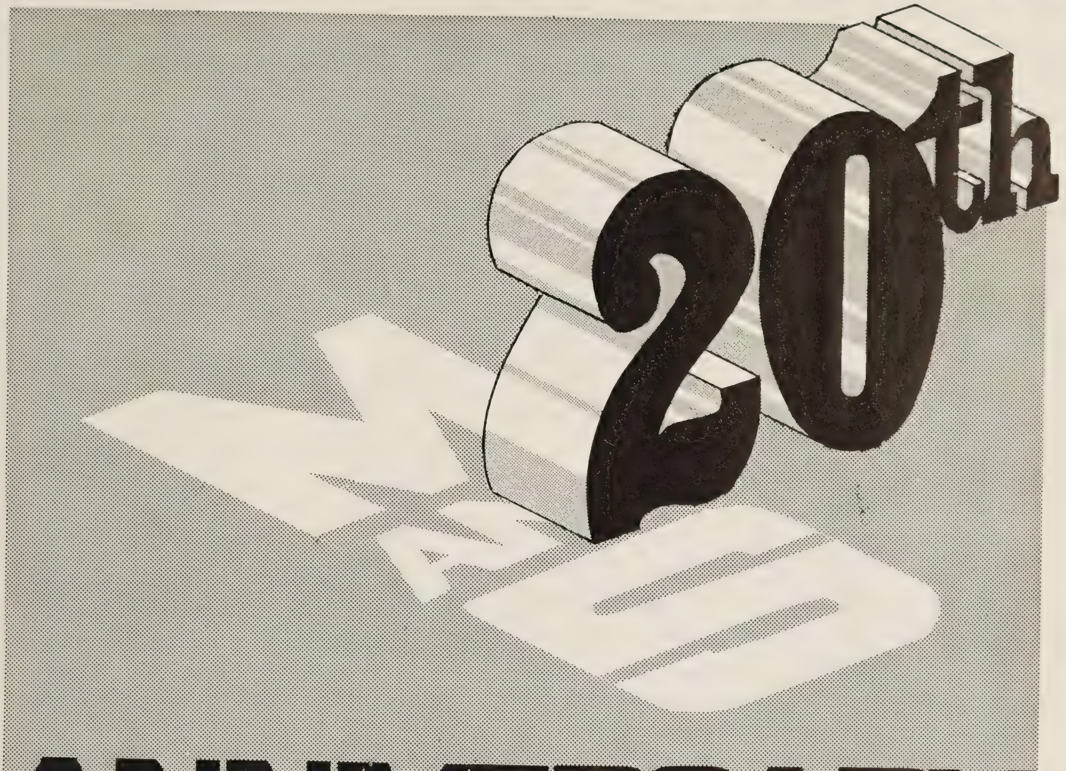

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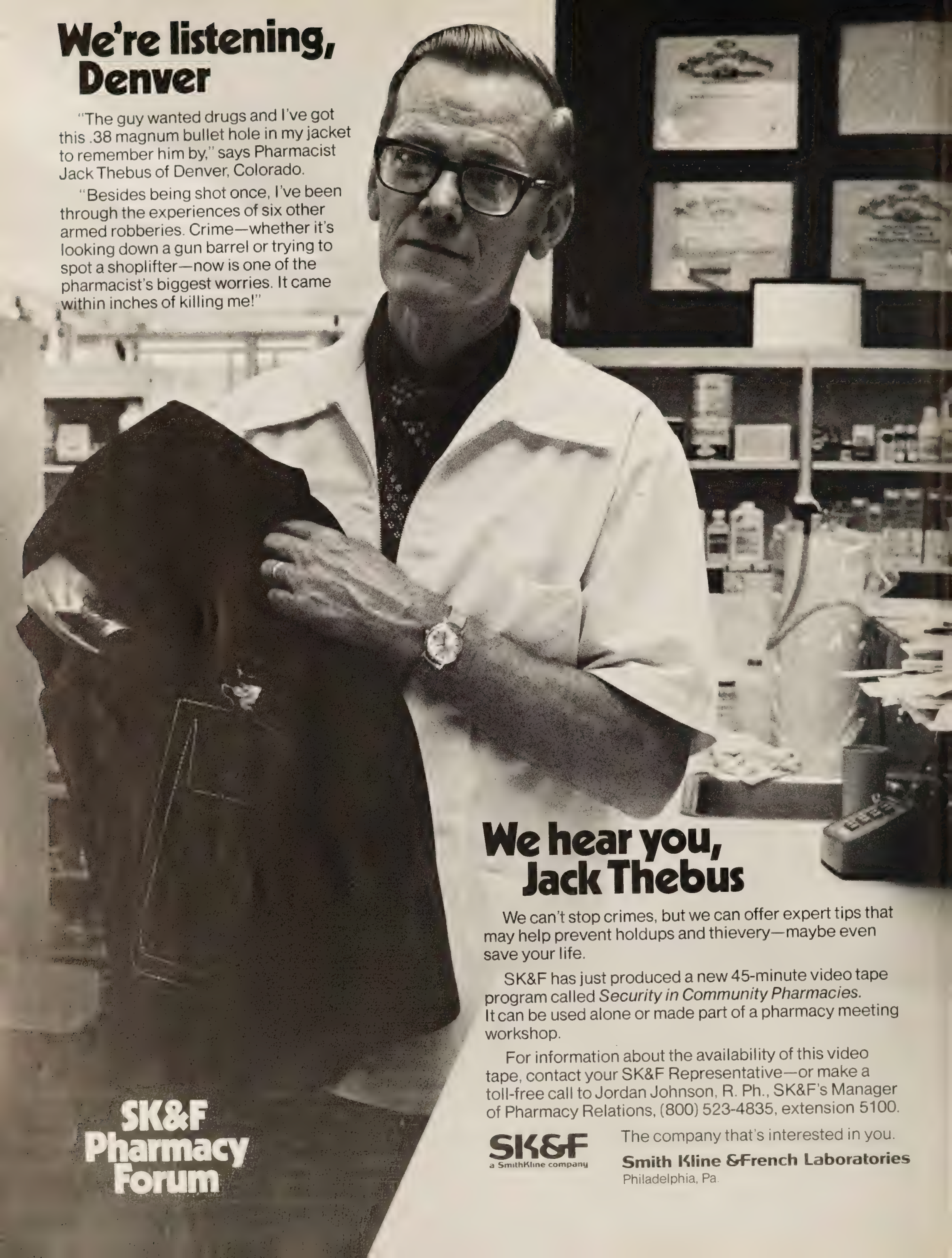

We're listening, Denver

"The guy wanted drugs and I've got this .38 magnum bullet hole in my jacket to remember him by," says Pharmacist Jack Thebus of Denver, Colorado.

"Besides being shot once, I've been through the experiences of six other armed robberies. Crime—whether it's looking down a gun barrel or trying to spot a shoplifter—now is one of the pharmacist's biggest worries. It came within inches of killing me!"

We hear you, Jack Thebus

We can't stop crimes, but we can offer expert tips that may help prevent holdups and thievery—maybe even save your life.

SK&F has just produced a new 45-minute video tape program called *Security in Community Pharmacies.* It can be used alone or made part of a pharmacy meeting workshop.

For information about the availability of this video tape, contact your SK&F Representative—or make a toll-free call to Jordan Johnson, R. Ph., SK&F's Manager of Pharmacy Relations, (800) 523-4835, extension 5100.

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The Fair Labor Standards Act

The Association has received several inquiries about the FLSA and is reprinting this information from the Wage and Hour Division for member information. For specific questions, contact them at: (301) 962-2265.

The Fair Labor Standards Act establishes minimum wage, overtime pay, equal pay, recordkeeping, and child labor standards affecting more than 50 million full-time and part-time workers.

Basic Wage Standards

Covered non-exempt workers are entitled to a minimum wage of not less than

Beginning January 1, 1979
$2.90 an hour

Beginning January 1, 1980
$3.10 an hour

Beginning January 1, 1981
$3.35 an hour

and overtime at not less than one and one-half times the employee's regular rate is due after 40 hours of work in the workweek

Wages required by the Act are due on the regular pay day for the pay period covered

Hospitals and residential care establishments may adopt, by agreement with the employees, a 14-day overtime period in lieu of the usual 7-day workweek, if the employees are paid at least time and a half their regular rate for hours worked over 8 in a day or 80 in a 14-day work period.

There are some exemptions from these basic provisions

Note: The FLSA does **not** require:
—vacation, holiday, severance, or sick pay
—a discharge notice or reason for discharge
—rest periods, holidays off, or vacations
—premium pay rates for weekend or holiday work
—pay raises or fringe benefits
—a limit on hours of work for employees 16 years of age or older

These are matters for agreement between the employer and the employees or their authorized representatives.

Who Is Covered?

All employees of certain enterprises having workers engaged in interstate commerce, producing goods for interstate commerce, or handling, selling, or otherwise working on goods or materials that have been moved in or produced for such commerce by any person are covered by the Act.

A covered enterprise is the related activities performed through unified operation or common control by any person or persons for a common business purpose and is —

(1) engaged in laundering or cleaning of clothing or fabrics; or
(2) engaged in the business of construction or reconstruction; or
(3) engaged in the operation of a hospital; an institution primarily engaged in the care of the sick, the aged, the mentally ill or defective who reside on the premises; a school for mentally or physically handicapped or gifted children; a preschool, an elementary or secondary school; or an institution of higher education (regardless of whether or not such hospital, institution or school is public or private or operated for profit or not for profit); or

(4) comprised exclusively of one or more retail or service establishments (as defined in the Act) whose annual gross volume of sales or business done is not less than —

$250,000

Beginning July 1, 1978
$275,000

Beginning July 1, 1980
$325,000

Beginning January 1, 1982
$362,500

(Any retail or service enterprise which has an annual gross volume of not less than $250,000 and which later ceases to be a covered enterprise as a result of increases in this dollar volume test must continue to pay its employees at least the minimum wage in effect at the time of the enterprise's removal from coverage, as well as overtime in accordance with the Act.) or

(5) any other type of enterprise having an annual gross volume of sales or business done of not less than $250,000.

The dollar volume standard mentioned above in (4) and (5) excludes excise taxes at the retail level which are separately stated.

Any establishment which has as its only regular employees the owner thereof or members of the owner's immediate family is not considered part of any enterprise.

Federal employees are subject to the minimum wage, overtime, child labor and equal pay provisions of the Act. Employees of State and local governments are subject to the same provisions, unless they are engaged in traditional governmental activities, in which case they are subject to the child labor and equal pay provisions only. The Supreme Court has indicated that such traditional governmental activities include schools, hospitals, fire prevention, police protection, sanitation, public health, parks and recreation.

Employees who are not employed in a covered enterprise may still be entitled to the Act's minimum wage, overtime pay, equal pay, and child labor protections if they are individually engaged in interstate commerce. These include —

(a) communication and transportation workers;
(b) employees who handle, ship, or receive goods moving in interstate commerce;
(c) clerical or other workers who regularly use the mails, telephone, or telegraph for interstate communication or who keep records on interstate transactions;

(d) employees who regularly cross State lines in the course of their work; and

(e) Employees of independent employers who perform clerical, custodial, maintenance, or other work for firms engaged in commerce or in the production of goods for commerce.

Domestic service workers such as maids, day workers, housekeepers, chauffeurs, cooks, or full-time baby sitters are covered if they (1) receive at least $100 in cash wages in a calendar year from their employer or (2) work a total of more than 8 hours a week for one or more employers.

Subminimum Wage Provisions

Learners, apprentices, and handicapped workers may, under certain circumstances, be paid less than the minimum wage, as well as full-time students in retail or service establisnments, agriculture, or institutions of higher education. Special certificates issued by the Wage and Hour Administrator must be obtained by employers wishing to use these provisions.

Equal Pay Provisions

The equal pay provisions of the FLSA prohibit wage differentials based on sex, between men and women employed in the same establishment on jobs that require equal skill, effort and responsibility and which are performed under similar working conditions.

Jobs need only be substantially equal — not identical — for comparison purposes. In addition, the comparison may be made in situations where employees of one sex are doing work formerly done by employees of the opposite sex.

Where a violation exists, an employer may not reduce the wage rate of an employee in order to eliminate the prohibited wage differential.

A wage differential based even in part on sex is prohibited. However, the law does permit differences based on factors other than sex (e.g., bona fide seniority or merit systems or systems that reward productivity).

In private employment, the equal pay provisions apply to most employees subject to the FLSA, including executive, administrative, professional and outside sales personnel. They apply not only to employers but to labor organizations. It is illegal for such organizations or their agents representing covered workers to cause or attempt to cause an employer to violate the law.

Exemptions

Some employees are excluded from the minimum wage or overtime provisions, or both, by specific exemptions. Because each exemption is narrowly defined under the law, an employer should carefully check its exact terms and conditions before applying it. The following examples are illustrative only and do not spell out the conditions for each. Detailed information is available from local Wage-Hour offices.

Exemptions from Both Minimum Wage and Overtime

Executive, administrative, and professional employees (including teachers and academic administrative personnel in elementary or secondary schools) and outside sales persons (as defined in the Division's regulations);

Employees of certain individually owned and operated small retail or service establishments not part of a covered enterprise;

Employees of certain seasonal amusement or recreational establishments, employees of certain small newspapers, switchboard operators of small telephone companies, seamen employed on foreign vessels, and employees engaged in fishing operations;

Exemptions from Overtime Provisions Only

Certain highly-paid commission employees of retail or service establishments; auto, truck, trailer, farm implement, boat, or aircraft salesworkers, or partsmen and mechanics servicing autos, trucks or farm implements, and who are employed by nonmanufacturing establishments primarily engaged in selling these items to ultimate purchasers;

Child Labor Provisions

The FLSA child labor provisions are designed to protect the educational opportunities of minors and prohibit their employment in jobs and under conditions detrimental to their health or well-being. The provisions include lists of hazardous occupation orders for both farm and nonfarm jobs banned by the Secretary of Labor as being too dangerous for minors to perform. Further information on prohibited occupations is available from local Wage-Hour offices.

Regulations governing youth employment in nonfarm jobs differ somewhat from those pertaining to agricultural employment. In nonfarm work, the permissible kinds and hours of work, by age, are:

18 years or older: any job, whether hazardous or not, for unlimited hours;

16 and 17 years old: any nonhazardous job, for unlimited hours;

14 and 15 years old: outside of school hours in various nonmanufacturing nonmining, nonhazardous jobs, under these conditions: no more than 3 hours on a school day, 18 hours in a school week, 8 hours on a nonschool day or 40 hours in a nonschool week. Also, work may not begin before 7 a.m., nor end after 7 p.m., except from June 1 through Labor Day, when evening hours are extended to 9 p.m.

Under a special provision, 14 and 15-year-olds enrolled in an approved Work Experience and Career Exploration Program (WECEP) may be employed for up to 23 hours in school weeks and 3 hours on school days (including during school hours).

Fourteen is the minimum age for most nonfarm work. However, at any age, youths may deliver newspapers, perform in radio, television, movie or theatrical productions, work for parents in their solely owned nonfarm business (except in manufacturing or on hazardous jobs), gather evergreens and make evergreen wreaths.

Permissible kinds and hours of work for youths employed in agriculture are:

16 years and older: any job, whether hazardous or not, for unlimited hours;

14 and 15 years old: any nonhazardous farm job outside of school hours;

12 and 13 years old: outside of school hours in nonhazardous jobs, either with parents' written consent or on the same farm as the parents;

Under 12 years old: jobs on farms owned or operated by parents or, with parents' written consent, outside of school hours in nonhazardous jobs on farms not covered by minimum wage requirements.

Local minors 10 and 11 years of age may work for no more than 8 weeks between June 1 and October 15 for employers who receive approval from the Secretary of Labor. This work must be confined to hand-harvesting short season crops outside school hours under very limited and specified circumstances prescribed by the Secretary of Labor.

Minors of any age may be employed by their parents at any time in any occupation on a farm owned or operated by their parents.

Recordkeeping

Employers are required to keep records on wages, hours and other items, as specified in the Division's recordkeeping regulations. Most of the information is of the kind generally maintained by employers in ordinary business practice and in compliance with other laws and regulations. The records do not have to be kept in any particular form and time clocks need not be used. With respect to an employee subject to both minimum wage and overtime pay provisions, the following records must be kept:

—Personal information, including employee's name, home address, occupation, sex, and birth date (if under 19 years of age)
—Hour and day when workweek begins
—Total hours worked each workday and each workweek
—Total daily or weekly straight-time earnings
—Regular hourly pay rate for any week when overtime is worked
—Total overtime pay for the workweek
—Deductions from or additions to wages
—Total wages paid each pay period
—Date of payment and pay period covered

Records required for exempt employees differ from those for nonexempt workers and special information is required on employees working under uncommon pay arrangements or to whom lodging or other facilities are furnished. Employers who have homeworkers must make entries in handbooks supplied by the Division.

Computing Overtime Pay

Overtime must be paid at a rate of at least 1-1/2 times the employee's regular pay rate for each hour worked in a workweek in excess of the maximum allowable in a given type of employment. Generally, the regular rate includes all payments made by the employer to or on behalf of the employee (excluding certain statutory exceptions). The following examples are based on a maximum 40-hour workweek:

1. Hourly rate (regular pay rate for an employee paid by the hour). If more than 40 hours are worked, at least 1-1/2 times the regular rate for each hour over 40 is due.

Example: An employee paid $3.80 an hour works 44 hours in a workweek. The employee is entitled to at least 1-1/2 times $3.80, or $5.70, for each hour over 40. Pay for the week would be $152 for the first 40 hours, plus $22.80 for the four hours of overtime — a total of $174.80.

3. Salaries — the regular rate for an employee paid a salary for a regular or specified number of hours a week is obtained by dividing the salary by the number of hours.

If, under the employment agreement, a salary sufficient to meet the minimum wage requirement in every workweek is paid as straight time for whatever number of hours are worked in a workweek, the regular rate is obtained by dividing the salary by the number of hours worked each week. To illustrate, suppose an employee's hours of work vary each week and the agreement with the employer is that the employee will be paid $200 a week for whatever number of hours of work are required. Under this pay agreement, the regular rate will vary in overtime weeks. If the employee works 50 hours, the regular rate is $4 ($200 divided by 50 hours). In addition to the salary, 1/2 the regular rate, or $2 is due for each of the 10 overtime hours, for a total of $220 for the week. If the employee works 54 hours, the regular rate will be $3.70 ($200 divided by 54). In that case, an additional $1.85 is due for each of the 14 overtime hours, for a total of $225.90 for the week.

In no case may the regular rate be less than the minimum wage required by the Act.

If a salary is paid on other than a weekly basis, the weekly pay must be determined in order to compute the regular rate and overtime. If the salary is for a half month, it must be multiplied by 24 and the product divided by 52 weeks to get the weekly equivalent. A monthly salary should be multiplied by 12 and the product divided by 52.

It is a violation of the FLSA to fire or in any other manner discriminate against an employee for filing a complaint or participating in a legal proceeding under the law.

Willful violations may be prosecuted criminally and the violator fined up to $10,000. A second conviction may result in imprisonment.

Violators of the child labor provisions are subject to a civil money penalty of up to $1,000 for each violation.

Recovery of Back Wages

The FLSA provides for the following methods of recovering unpaid minimum and/or overtime wages:

1. The Division may supervise payment of back wages.

2. The Secretary of Labor may bring suit for back wages and an equal amount as liquidated damages.

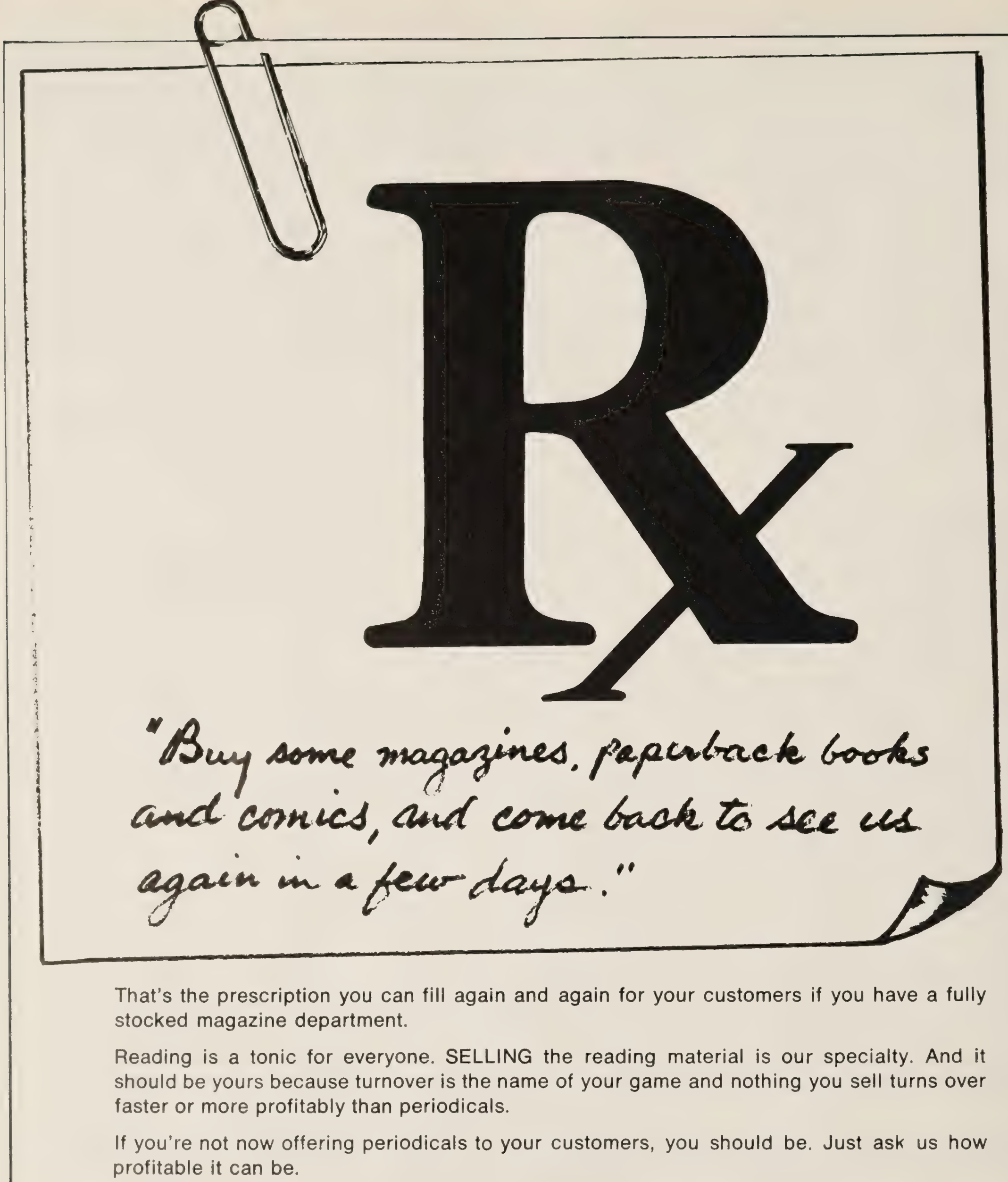
3. An employee may file a private suit for back pay and an equal amount as liquidated damages, plus attorney's fees and court costs.

4. The Secretary may obtain an injunction to restrain any person from violating the law, including the unlawful withholding of proper minimum wage and overtime compensation.

Any amount owed to an employee in violation of the equal pay provisions is deemed unpaid minimum wages or unpaid overtime compensation under the Act.

An employee may not bring suit if he or she has been paid back wages under the supervision of the Division or if the Secretary has already filed suit to recover the wages.

A two-year statute of limitations applies to the recovery of back pay, except in the case of willful violation, in which case a three-year statute applies.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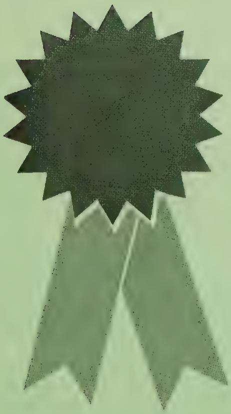
Poison Prevention Packaging

NDC Numbers for Most Common Drugs

1980 Third Party Chart



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NOVEMBER 1979 VOL. 55 NO. 11

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President's Message

I would like to thank all of you that bought tickets to the Burnbrae Dinner Theatre. It is a sellout again this year. Over 200 people will attend on December 2nd and I extend apologies to those who wanted tickets when we were out.

The Fall Regional Meeting at the new Baltimore Convention Center was very successful. The excellent presentations by Dayle Berke of the FTC, and Richard Brown from the Dale Carnegie Courses resulted in the largest attendance in several years. I feel that the new format of an evening meeting with guest speakers and a short review of Association activities is a welcome change over the traditional format.

The new Baltimore Convention Center was also a highlight of the evening. It is a magnificent building and very functional as a meeting facility. It is a tremendous addition to the developing Inner Harbor area and well worth the trip alone to this successful downtown renewal effort.

Third party prescription plans still occupy a large portion of our time. The new Medimet program for retired G.E. employees was recently mailed to my pharmacy. I found this plan to have several distasteful portions, and felt that I must exercise my individual right to refuse plans that are unsatisfactory to me. Responding to several negative comments from pharmacists, Dave Banta wrote a letter to Medimet expressing some of the opinions we have heard. If we receive a reply, we will inform you as to any changes that Medimet will implement.

Third party administrators must learn that they cannot pinch pennies at our expense. In 1980, we are still being paid 1970 dispensing fees. Third party administrators must recognize the fact that inflation also hits pharmacy. Stand up and speak out! Do not expect your leaders to carry this fight alone.

On the day of the Fall Regional Meeting, I was personally saddened to hear the news of the death of fellow pharmacist and friend for the past 25 years, David MacLarty, who was shot and died from wounds received in a hold-up of his pharmacy. To quote from a letter from Paul Burkhart, "David was a very unassuming man who devoted a major portion of his life serving his community. His charity and willingness to help is well-known to his patients and customers. The tragic end to his career has not only been a shock to all of us in pharmacy, but to all who pursue a reasonable lifestyle."

"It is, indeed, hard to believe that Pharmacists should have to face this threat as part of their role in providing health care."

"The tragedy of David's death should be a stimulus for us to review the penalties for those that would strike down men and women who are serving their fellow men and women."

As a group, we should support making crimes against pharmacies a federal crime. We should also push for longer sentences and the mandatory serving of these sentences for anyone involved in an armed robbery. The man that killed David was on a work release program after having been sentenced for armed robbery. A thorough review of our state's prison system is long overdue. The prisons may be crowded, but this is no excuse to let violent people on the street. The Governor and the courts have a duty to protect decent citizens of this state. Do we not have the right to work and live without fear?

Ronald A Lubman
RONALD LUBMAN

POISON PREVENTION PACKAGING

The Poison Prevention Packaging Act of 1970, administered by the U.S. Consumer Product Safety Commission, is a powerful weapon to reduce poisonings among small children. The Act provides that certain household products which are found to be hazardous or potentially hazardous must be sold in *safety packaging* that most children under five years of age cannot open if these products are in packages for use in or around the household.

Currently required to be in safety packaging by regulations promulgated under the Poison Prevention Packaging Act are the following drugs:

1. human prescription drugs in oral dosage forms;
2. all controlled drugs in dosage forms intended for oral administration;
3. aspirin products, except for certain effervescent and powder forms;
4. methyl salicylate (oil of wintergreen).

Other regulated products which may be found in establishments where pharmacies are located include:

1. certain furniture polishes;
2. preparations, containing potassium and/or sodium hydroxide (certain oven and drain cleaners);
3. turpentine;
4. lighter fluid;
5. sulfuric acid;
6. ethylene glycol (anti-freeze);
7. methyl alcohol (windshield washer solution).

NOTE: Exemptions have been granted for drugs to which patients need rapid access. These are isosorbide dinitrate and nitroglycerine. Others have been proposed for exemption. Future regulations will cover iron preparations and veterinary prescription drugs. Careful monitoring of accidental ingestion data and other statistics may show in the future the need for regulations covering camphor and antihistamines.

The child-resistant containers for these substances must be sufficiently difficult that they cannot be opened by 80 percent of children under five but they must allow access to at least 90 percent of adults, who will then be able to open and properly close the packaging conveniently.

The law does *not* require that the packaging be so difficult to open that *no* children can gain access to the contents. If the law did require this, then many adults would not be able to open the packages either. Therefore, the packaging that is on the market is a compromise — between opening ease for adults and difficult access for children. While this results in some slight inconvenience to all of us, remember that these new packages are designed to save the lives of children!

For the few people — the very old and those with handicaps such as arthritis — who may find it impossible to use this new safety packaging, the law allows two ways to provide traditional easy-to-open packaging:

1. A manufacturer can market one size of the product in conventional packaging if other packages of the same product are on the market in safety packaging. However, in these exceptions, the label must clearly state:

   This package for households
   without young children.

   or if the package is small:

   Package not child-resistant.

2. The prescribing physician or consumer may request that *prescription medicines* be put into ordinary packaging without safety features. Although some pharmacists may ask for a written statement from a purchaser before providing a conventional closure, this is *not* a requirement of the Federal law.

NOTE TO PHARMACISTS: The U.S. Consumer Product Safety Commission wants those who find the containers difficult to open to be aware that conventional packaging is available. The pharmacist may post a sign or inform a customer of these options under the Law, but he must leave the choice up to the purchaser.

Blanket Waivers: A purchaser may request that all of his or her prescriptions be dispensed in non-complying packaging. However, this option is limited to the purchaser.

However, with conventional packaging, the safety potential of poison prevention packaging is eliminated. The need is even greater for careful handling and storage of the substance on hand.

Refilling Prescriptions: Because safety closures can lose their effectiveness through repeated use, new packaging must be used when prescriptions are refilled. However, when glass containers are used, using new caps for refills fulfills the poison prevention packaging requirements.

For those drugs packaged in containers which are intended by the manufacturer to be dispensed to the consumer in the original package, the obligation to provide special packaging rests with the manufacturer. (This does not, however, relieve the pharmacist of the obligation to inspect those packages which he receives, and in the absence of special packaging, to provide the same.)

SUBSTANCES COVERED UNDER THE POISON PREVENTION PACKAGING ACT

*1. Aspirin
2. Furniture Polish — nonemulsion with 10% or more mineral seal oil and/or other petroleum distillates
3. Methyl Salicylate (Oil of Wintergreen) — more than 5% by weight
*4. Controlled Drugs
5. Sodium and/or Potassium Hydroxide — dry form 10% or more by weight, all others 2% or more by weight
6. Turpentine — 10% or more by weight
7. Kindling and/or Illuminating Preparations — 10% or more by weight petroleum distillates
8. Methyl Alcohol (Methanol) — 4% or more by weight
9. Sulfuric Acid — 10% or more by weight
*10. Prescription Drugs (Human Oral)
11. Ethylene Glycol — 10% or more by weight
12. Paint Solvents — 10% or more by weight benzene, toluene, xylene, petroleum distillates or combination thereof
*13. Iron Containing Drugs — 250 mg or more elemental iron
*14. Dietary Supplements Containing Iron — 250 mg or more elemental iron
*15. Acetaminophen — more than one gram (Final order 8/31/79 effective 2/27/80)

*Probably in a Pharmacy as an over the counter or prescription item.

PRESCRIPTION DRUG EXEMPTIONS

(i) Sublingual dosage forms of nitroglycerin
(ii) Sublingual and chewable forms of isosorbide dinitrate in strengths of 5 mg or less per dosage unit. This level may be raised to 10 mg. (10 mg still must be in special packaging)
(iii) Erythromycin ethylsuccinate granules for oral suspensions and oral suspensions containing no more than 8 gm erythromycin.
(iv) Cyclically administered oral contraceptives in manufacturers' mnemonic (memory-aid) dispenser packages, which rely solely upon the activity of one or more of the following progestrogen and estrogen substances: Dimethisterone, ethinyl estradiol, ethynodiol diacetate, mestranol, norethindrone, norethynodrel, or norgestrel and which provide not more than the following amounts of these substances per package: 150.0 milligrams of dimethisterone, 2.2 milligrams of ethinyl estradiol, 21.0 milligrams of ethynodiol diacetate, 6.0 milligrams of mestranol, 200.0 milligrams of norethindrone, 105.0 milligrams of norethynodrel, or 10.5 milligrams of norgestrel.
(v) Anhydrous cholestyramine (chloride salt of a basic anion-exchange resin) in powder form.
(vi) Potassium supplements which are individually packaged effervescent tablets, each containing not more than 25 milliequivalents of potassium. It was proposed to change the 25 milliequivalents to 50 milliequivalents (50 milliequivalents must still be in special packaging).
(vii) Aqueous solutions of sodium fluoride containing no more than 264 milligrams of sodium fluoride per package.
(viii) Betamethasone tablets packaged in manufacturers' dispenser packages, containing no more than 12.6 milligrams betamethasone.
(ix) Mebendazole in tablet form in packages containing not more than 600 mg of the drug.
(x) Methylprednisolone in tablet form in packages containing not more than 84 mg. of the drug.
(xi) Colestipol in powder form in packages containing not more than 5 grams of the drug. (Special Packaging required until the final order, which will appear in the Federal Register shortly).

ASPIRIN EXEMPTIONS

(i) Effervescent tablets containing aspirin.
(ii) Unflavored aspirin containing preparations in powder form (other than those intended for pediatric use) providing not more than 13 grains of aspirin per unit dose.

ACETAMINOPHEN PROPOSED EXEMPTIONS

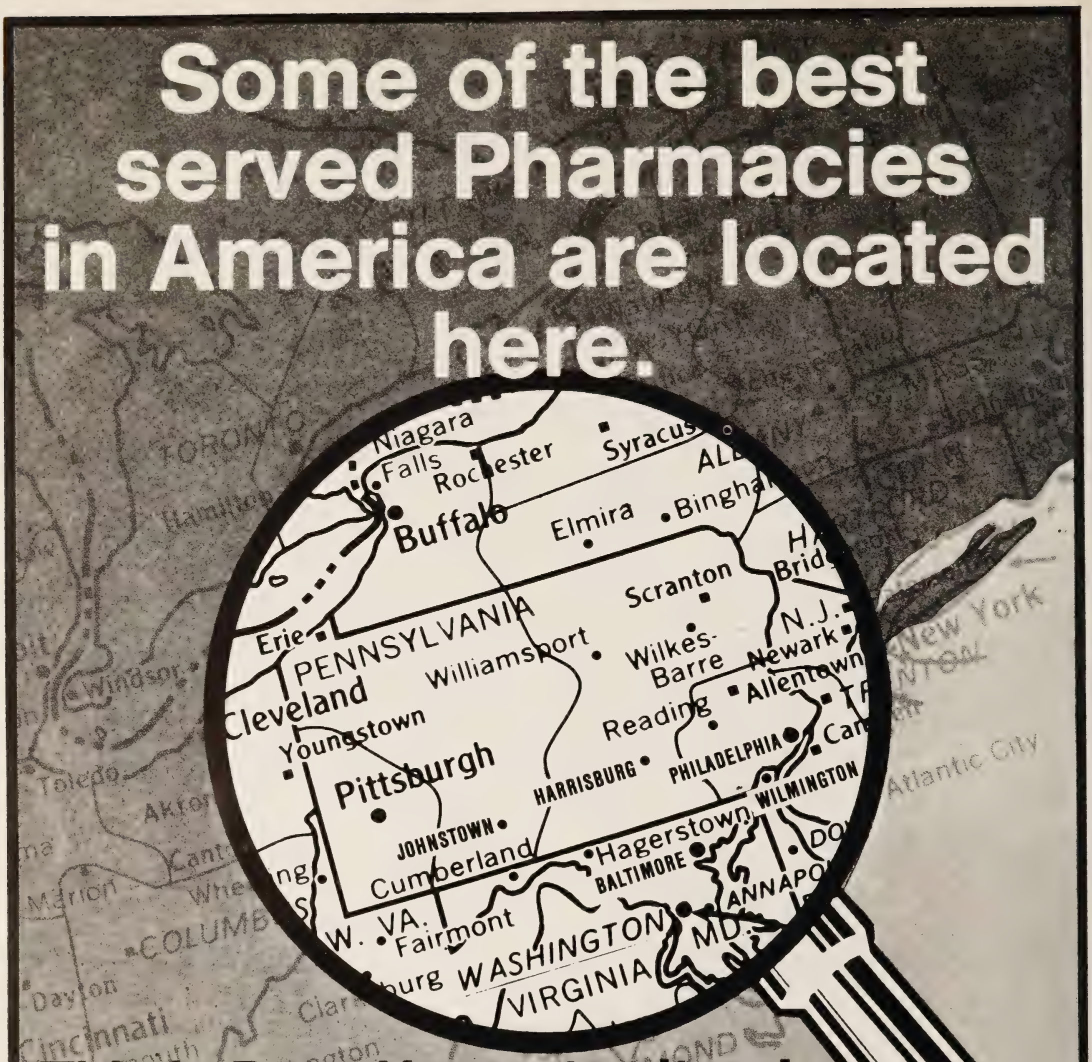
(i) Effervescent tablets or granules containing acetaminophen.
(ii) Unflavored acetaminophen containing preparations in powder form (other than those intended for pediatric use) providing not more than 13 grains of acetaminophen per unit dose.

For further information on poison prevention packaging call the U.S. Consumer Product Safety Commission toll-free: 800-492-2937.

calendar

Nov. 14-20 — 10th Annual Meeting — American Society of Consulting Pharmacists
Nov. 13 (Tues.) — BMPA Annual Meeting — Quality Inn Pikesville
Nov. 17 (Sat.) — MSHP Seminar
Dec. 2 (Sun.) — MPhA BENEFIT DINNER THEATRE "FIDDLER" AT BURN BRAE — DEADLINE FOR RESERVATIONS IS APPROACHING — CALL OFFICE TODAY!!
Jan. 12-19 — ARUBA WITH MPhA — DON'T BE LEFT OUT — WINTER TRIPS ARE SELLOUTS
Feb. 10 (Sun.) — BMPA Banquet, Bluecrest (It's not too early to make up your table)
Mar. 23 (Sun.) — AZO Fritz Berman Seminar

Every Sunday Morning at 6:15 a.m. listen to Charles Spigelmire on WCAO broadcast the Pharmacy Public Relations Program "Your Good Neighbor," the oldest continuous public service show in Baltimore.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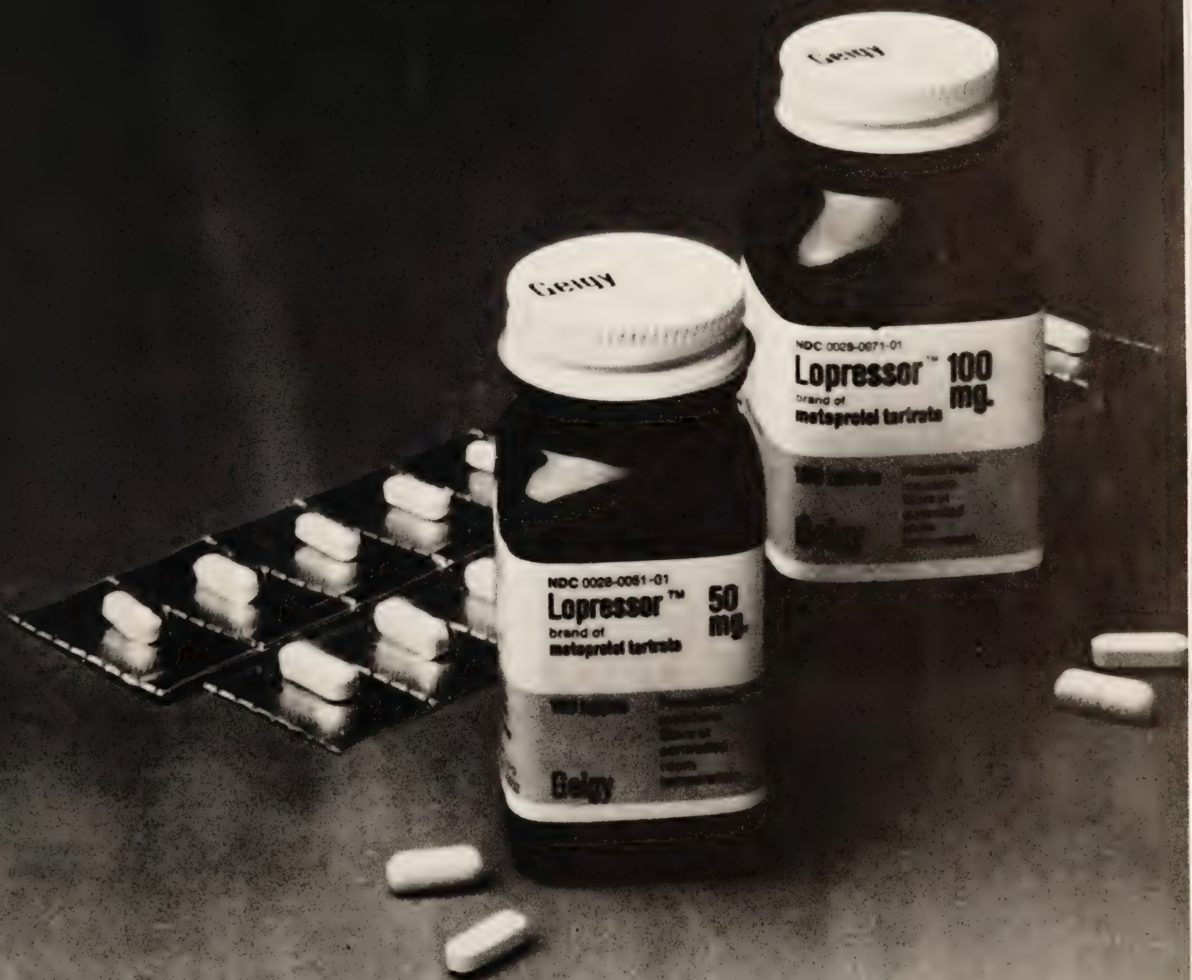
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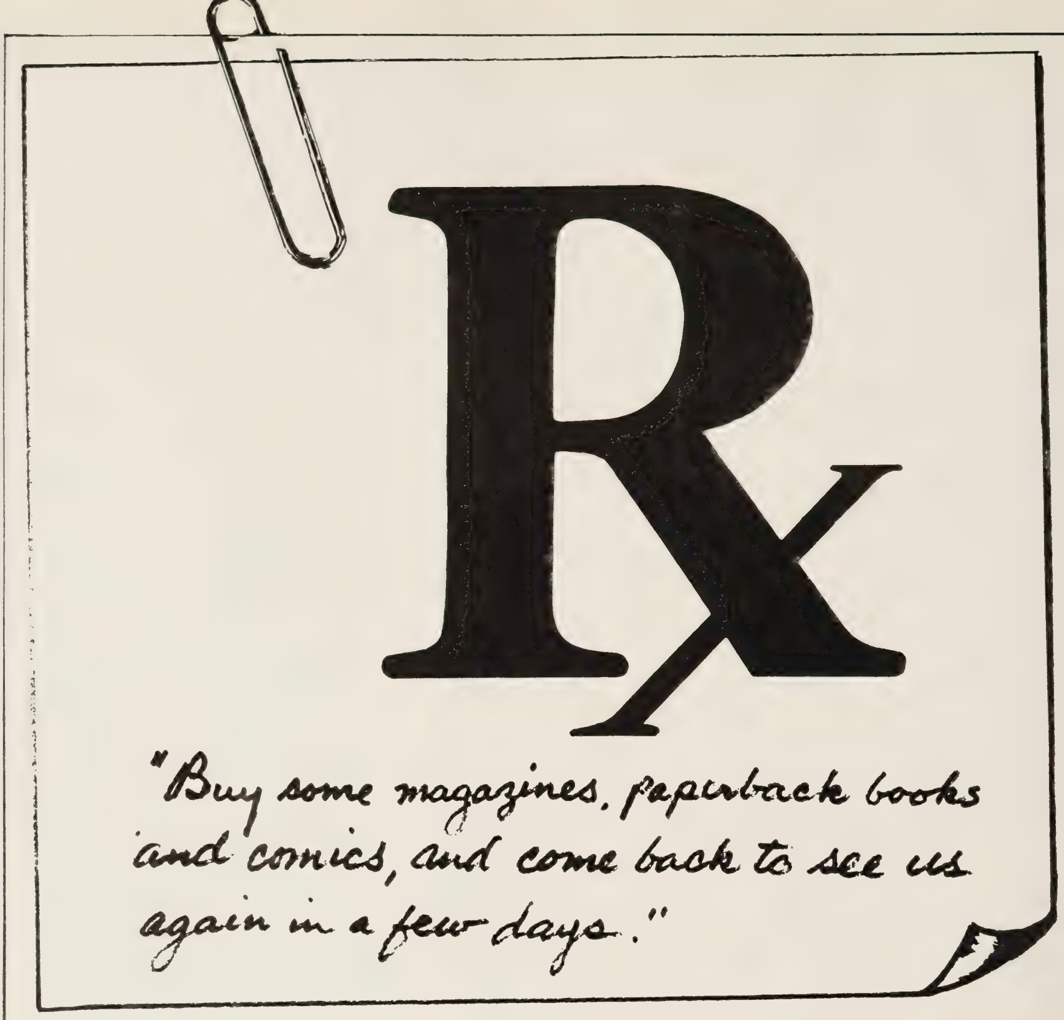
NDC NUMBERS FOR MOST COMMONLY USED DRUG PRODUCTS

— AN AID FOR FILLING IN THIRD-PARTY FORMS —

The following list covers many of the most commonly used drug products and the NDC numbers for the smallest size normally used of that product. Space is left for you to fill in the last two digits of NDC to convert to package size you use and want to list on third party forms. Space is left on right side of pages to permit additions of drug products you want added to the list. Only branded products are listed.

ACHROMYCIN V			
cap 250 mgm	100	0005-4880-23	(1000 —)
ACTIFED			
tab	100	0081-0018-55	( )
syrup	16oz	0081-0019-96	( )
ALDACTAZIDE			
tab	100	0014-1011-31	( )
ALDACTONE			
tab 25mg	100	0014-1001-31	( )
ALDOMET			
tab 125mg	100	0006-0135-68	( )
250mg	100	0006-0401-68	( )
500mg	100	0006-0516-68	( )
ALDORIL			
tab 15	100	0006-0423-68	( )
25	100	0006-0456-68	( )
AMBENYL			
Expect	4oz	0088-1231-11	( )
	16oz	0088-1231-18	( )
AMCILL			
Cap 250mg	100	0071-0402-24	( )
500mg	100	0071-0404-24	( )
AMOXIL			
Cap 250mg	100	0029-6006-30	( )
500mg	50	0029-6007-29	( )
ANTIVERT			
tab 12.5mg	100	0662-2100-66	( )
25mg	100	0662-2110-66	( )
APRESOLINE			
tab 10mg	100	0083-0037-30	( )
25mg	100	0083-0039-30	( )
50mg	100	0083-0073-30	( )
ATARAX			
tab 10mg	100	0049-5600-66	( )
25mg	100	0049-5610-66	( )
50mg	100	0049-5620-66	( )
100mg	100	0049-5630-66	( )
ATROMID S			
Cap 500mg	100	0046-0243-81	( )
AZO GANTRISIN			
tab	100	0004-0012-01	( )
BENDECTIN			
tab	100	0068-0155-61	( )
BENTYL (PB)			
Cap 10mg	100	0068-0120-61	( )
W/Pb	100	0068-0122-61	( )
tab 10mg	100	0068-0123-61	( )
W/Pb	100	0068-0124-61	( )
BENYLIN			
Syrup	4oz	0071-2195-17	( )
	16oz	0071-2195-23	( )
BUTAZOLIDIN			
tab 100mg	100	0028-0014-01	( )
ALKA Cap	100	0028-0002-01	( )
BUTISOL			
Elix	16oz	0045-0110-16	( )
tab 15mg	100	0045-0112-60	( )
30mg	100	0045-0113-60	( )
CATAPRES			
tab 1.1mg	100	0597-0006-01	( )
0.2mg	100	0597-0007-01	( )
CHOLEDYL			
tab 100mg	100	0047-0210-51	( )
200mg	100	0047-0211-51	( )
CLINORIL			
tab 150mg	100	0006-0941-68	( )
200mg	100	0006-0942-68	( )
COMBID			
Spans	50	0007-3326-15	( )
COMPAZINE			
tab 5mg	100	0007-3366-20	( )
10mg	100	0007-3367-20	( )
CORTISPORIN			
otic soln	10ml	0081-0199-92	( )
otic susp	10ml	0081-0198-92	( )
COUMADIN			
tab 2mg	100	0056-0170-70	( )
2.5mg	100	0056-0171-70	( )
5ml	100	0056-0172-70	( )
7.5mg	100	0056-0173-70	( )
10mg	100	0056-0174-70	( )

CYCLOSPASMOL			
cap 200mg	100	0082-4124-01	( )
400mg	100	0082-4148-04	( )
tab 100mg	100	0082-4120-01	( )
DALMANE			
cap 15mg	100	0140-0065-01	( )
30mg	100	0140-0066-01	( )
DARVON			
Pulv 65mg	100	0002-0803-02	( )
Comp 65	100	0002-0806-02	( )
–N tab 100mg	100	0002-0353-02	( )
–N tab W/ASA	100	0002-0354-02	( )
Darvocet N	100	0002-0351-02	( )
Darvocet N100	100	0002-0363-02	( )
DEMULEN			
21 compak	6 units	0014-0071-07	( )
28 compak	6 units	0014-0071-09	( )
DIABINESE			
tab 100mg	100	0663-3930-66	( )
250mg	100	0663-3940-66	( )
DILANTIN			
Infatab 50mg	100	0071-0007-24	( )
Kap 30mg	100	0071-0365-24	( )
Kap 100mg	100	0071-0362-24	( )
Kap W/Pb gr	100	0071-0375-24	( )
Kap W/Pb gr	100	0071-0531-24	( )
DIMETANE			
Extentab 8mg	100	0031-1868-63	( )
Extentab 12mg	100	0031-1843-63	( )
DIMETAPP			
Elixir	16oz	0031-2224-25	( )
Extentab	100	0031-2274-63	( )
DIUPRES			
tab 250mg	100	0006-0230-68	( )
500mg	100	0006-0405-68	( )
DIURIL			
tab 250mg	100	0006-0214-68	( )
500mg	100	0006-0432-68	( )
DONNATAL			
Cap	100	0031-4207-63	( )
tab	100	0031-4250-63	( )
Extentab	100	0031-4235-63	( )
Elixir	16oz	0031-4221-25	( )
DYAZIDE			
cap	100	0484-3590-20	( )
ELAVIL			
tab 10mg	100	0006-0023-68	( )
25mg	100	0006-0045-68	( )
50mg	100	0006-0102-68	( )
75mg	100	0006-0430-68	( )
100mg	100	0006-0435-68	( )
150mg	30	0006-0673-30	( )
ELIXOPHYLLIN			
Cap 100mg	100	0041-0126-10	( )
200mg	100	0041-0125-10	( )
SR cap 125mg	100	0041-0129-10	( )
250mg	100	0041-0123-10	( )
Elixir	16oz	0041-0121-16	( )
EMPIRIN COMPOUND			
tab 1/8 gr	100	0081-0332-55	( )
1/4 gr	100	0081-0342-55	( )
1/2 gr	100	0081-0355-55	( )
1 gr	100	0081-0368-55	( )
EQUANIL			
tab 200mg	100	0008-0002-03	( )
400mg	100	0008-0001-05	( )
ERYTHROCIN			
tab 250mg	100	0074-6346-20	( )
ESIDRIX			
tab 25mg	100	0083-0022-30	( )
50mg	100	0083-0046-30	( )
100mg	100	0083-0192-30	( )
FIORINAL			
Cap	100	0078-0043-05	( )
tab	100	0078-0044-05	( )
FLAGYL			
tab	100	0014-1801-31	( )
GANTANOL			
tab 0.5mg	100	0004-0010-01	( )
GANTRISIN			
tab 0.5gm	100	0004-0009-01	( )
HALDOL			
tab 0.5mg	100	0045-0240-60	( )
1.0mg	100	0045-0241-60	( )
2.0mg	100	0045-0242-60	( )
5.0mg	50	0045-0245-50	( )
10.0mg	50	0045-0246-50	( )
HYDRODIURIL			
tab 25mg	100	0006-0042-68	( )
60mg	100	0006-0105-68	( )
100mg	100	0006-0410-68	( )
HYDROPRES			
tab 25mg	100	0006-0053-68	( )
50mg	100	0006-0127-68	( )
HYGROTON			
tab 25mg	100	0070-0022-00	( )
50mg	100	0070-0020-00	( )
100mg	100	0070-0021-00	( )
INDERAL			
tab 10mg	100	0046-0461-81	( )
20mg	100	0046-0462-81	( )
40mg	100	0046-0464-81	( )
80mg	100	0046-0468-81	( )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INDOCIN			
cap 25mg	100	0006-0025-68	( )
50mg	100	0006-0050-68	( )
IONAMIN			
−15 cap	100	0018-0903-71	( )
−30 cap	100	0018-0904-71	( )
ISORDIL			
tab 5mg	100	0082-4152-01	( )
10mg	100	0082-4153-01	( )
20mg	100	0082-4154-01	( )
subl tab 2.5mg	100	0082-4139-01	( )
5mg	100	0082-4126-01	( )
Tembids 40mg	100	0082-4125-01	( )
cap			
40mg	100	0082-4140-01	( )
w/phenobarb	100	0082-4123-01	( )
LANOXIN			
tab 0.125mg	100	0081-0242-55	( )
0.250mg	100	0081-0249-55	( )
0.5mg	100	0081-0253-55	( )
LAROTID			
cap 250mg	100	0004-0122-01	( )
500mg	50	0004-0123-02	( )
LASIX			
tab 20mg	100	0039-0067-10	( )
40mg	100	0039-0060-10	( )
80mg	50	0039-0066-05	( )
LIBRAX			
cap	100	0140-0007-01	( )
LIBRIUM			
cap 5mg	100	0140-0001-01	( )
10mg	100	0140-0002-01	( )
25mg	100	0140-0003-01	( )
LOMOTIL			
tab	100	0014-0061-31	( )
LO/OVRAL			
21's tab	6's	0008-0078-01	( )
28's tab	6's	0008-2514-02	( )
LOPRESSOR			
tab 50mg	100	0028-0051-01	( )
100mg	100	0028-0071-01	( )
MACRODANTIN			
cap 25mg	100	0035-0007-01	( )
50mg	30	0035-0008-30	( )
	100	0035-0008-01	( )
100mg	30	0035-0009-30	( )
	100	0035-0009-01	( )
MARAX			
tab	100	0049-2540-66	( )
MELLARIL			
tab 10mg	100	0078-0002-05	
15mg	100	0078-0008-05	( )
25mg	100	0078-0003-05	( )
50mg	100	0078-0004-05	( )
100mg	100	0078-0005-05	( )
MINIPRESS			
tab 1mg	250	0069-4310-71	( )
2mg	250	0069-4370-71	( )
5mg	250	0069-4380-71	( )
MOTRIN			
tab 300mg	60	0009-0733-01	( )
400mg	100	0009-0750-25	( )
NALDECON			
tab	100	0015-5600-60	( )
NALFON			
pulv 300mg	100	0777-0877-02	( )
tab 600mg	100	0777-2159-02	( )
NAPROSYN			
tab 250mg	100	18393-272-42	( )
NORGESIC			
tab	100	0089-0235-10	( )
tab forte	100	0089-0237-10	( )
NORINYL			
1+50 tab	3x21	42987-101-15	( )
1+80 tab	3x21	42987-101-15	( )
1+50 refills	21-6	42987-101-25	( )
1+80 tab	21-6	42987-102-25	( )
NORLESTRIN			
−21 1/50cmpk	5's	0710-0904-46	( )
2.5/50cmpk	5's	0710-0901-46	( )
−28 1/50cmpk	5's	0710-0903-46	( )
Fe 28 1/50cmpk	5's	0710-0905-46	( )
NOVAHISTINE			
Expect	4oz	0183-1023-58	( )
DH Liq	4oz	0183-1024-58	( )
OMNIPEN			
cap 250mg	100	0008-0053-03	( )
500mg	100	0008-0309-03	( )
ORNADE			
Spans	50	0007-4423-15	( )
ORTHO NOVUM			
tab 2mg	1x21	0062-1351-15	( )
1/50	1x21	0062-1331-15	( )
	1x28	0062-1332-15	( )
1/80	1x21	0062-1390-15	( )
	1x28	0062-1391-15	( )
OVRAL			
pilpak	6x21	0008-0056-01	( )
−28	6x28	0008-2511-02	( )
OVULEN			
−21 cmpk	6x21	0014-0401-07	( )
−28 cmpk	6x28	0014-0401-09	( )

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PARAFON-FORTE			
tab	100	0045-0322-60	( )
PAVABID			
HP Cap 300mg	60	0088-1557-41	( )
Plateau			
Cap 150mg	100	0088-1555-47	( )
PEN-VEE K			
tab 250mg	100	0008-0059-02	( )
500mg	100	0008-0390-01	( )
PERCODAN			
tab	100	0060-0122-70	( )
demi	100	0060-0123-70	( )
PERSANTINE			
tab 25mg	100	0597-0017-01	( )
PHENAPEN & CODEINE			
Cap #2	100	0031-6242-63	( )
Cap #3	100	0031-6257-63	( )
Cap #4	100	0031-6274-63	( )
−650 w/cod	50	0031-6251-60	( )
POLARAMINE			
tab 2mg	100	0085-0820-03	( )
Repetab 4mg	100	0085-0095-03	( )
6mg	100	0085-0148-03	( )
PREMARIN			
tab 0.3mg	100	0046-0868-81	( )
0.625mg	100	0046-0867-81	( )
1.25mg	100	0046-0866-81	( )
2.5mg	100	0046-0865-81	( )
PROLOID			
tab 1/4gr	100	0047-0250-51	( )
1/2 gr	100	0047-0251-51	( )
1 gr	100	0047-0252-51	( )
1 1/2 gr	100	0047-0253-51	( )
2 gr	100	0047-0257-51	( )
PRONESTYL			
cap 250mg	100	0003-0758-50	( )
375mg	100	0003-0756-50	( )
500mg	100	0003-0757-50	( )
PYRIDUM			
tab 100mg	100	0047-0180-51	( )
200mg	100	0047-0181-51	( )
QUIBRON			
cap	100	0087-0516-01	( )
−plus cap	100	0087-0518-01	( )
−300 cap	100	0087-0515-41	( )
REGROTON			
tab	100	0070-0031-00	( )
SALUTENSIN			
DEMI-tab	100	0015-5455-60	( )
tab	100	0015-5436-60	( )
SEPTRA			
tab	100	0081-0852-55	( )
SER-AP-ES			
tab	100	0083-0071-30	( )
SERAX			
cap 10mg	100	0008-0051-02	( )
15mg	100	0008-0006-02	( )
30mg	100	0008-0052-02	( )
SINEQUAN			
cap 10mg	100	0663-5340-66	( )
25mg	100	0663-5350-66	( )
50mg	100	0663-5360-66	( )
75mg	100	0663-5390-66	( )
SLOW-K			
tab 600mg	100	0083-0165-30	( )
SORBITRATE			
SA-tab 40mg	100	0038-0880-10	( )
Subl tab 2.5mg	100	0038-0853-10	( )
5mg	100	0038-0760-10	( )
Chew tab 5mg	100	0038-0810-10	( )
10mg	100	0038-0815-10	( )
Oral tab 5mg	100	0038-0770-10	( )
10mg	100	0038-0780-10	( )
20mg	100	0038-0820-10	( )
STELAZINE			
tab 1mg	100	0484-4903-20	( )
2mg	100	0484-4904-20	( )
5mg	100	0484-4906-20	( )
SUMYCIN			
cap 250mg	100	0003-0655-40	( )
500mg	100	0003-0763-40	( )
tab 500mg	100	0003-0603-43	( )
SYNTHROID			
tab 0.025mg	100	0048-1020-03	( )
0.05mg	100	0048-1040-03	( )
0.1mg	100	0048-1070-03	( )
0.15mg	100	0048-1090-03	( )
0.2mg	100	0048-1140-03	( )
0.3mg	100	0048-1170-03	( )
TAGAMET			
tab 300mg	100	0108-5013-20	( )
TALWIN (Compound)			
tab 50mg	100	0024-1921-04	( )
TENUATE			
Dospan 75mg	100	36969-698-61	( )
tab 25mg	100	36969-697-61	( )
THORAZINE			
tab 10mg	100	0007-5073-20	( )
25mg	100	0007-5074-20	( )
50mg	100	0007-5076-20	( )
100mg	100	0007-5077-20	( )
TIGAN			
cap 100mg	100	0029-4082-30	( )
250mg	100	0029-4083-30	( )
supp 100mg	10	0029-4088-38	( )
200mg	10	0029-4084-38	( )

TOFRANIL			
tab 10mg	100	0028-0021-01	( )
25mg	100	0028-0011-01	( )
50mg	100	0028-0075-01	( )
PM cap 75mg	30	0028-0020-26	( )
100mg	30	0028-0040-26	( )
125mg		0028-0045-26	( )
150mg		0028-0022-26	( )
TOLECTIN			
tab 200mg	100	0045-0412-60	( )
TOLINASE			
tab 100mg	100	0009-0070-02	( )
250mg	100	0009-0114-05	( )
500mg	50	0009-0477-01	( )
TRANXENE			
cap 3.75mg	100	0074-3417-13	( )
7.5mg	100	0074-3418-13	( )
15mg	100	0074-3419-13	( )
TRIAVIL			
tab 2-10	100	0006-0914-68	( )
2-25	100	0006-0921-68	( )
4-10	100	0006-0934-68	( )
4-25	100	0006-0946-68	( )
4-50	60	0006-0517-60	( )
TUSS-ORNADE			
liquid	16oz	0007-5270-56	( )
Span	50	0007-5271-15	( )
TYLENOL & CODEINE			
Elixir	16oz	0045-0508-16	( )
tab #1	100	0045-0510-60	( )
#2	100	0045-0511-60	( )
#3	100	0045-0513-60	( )
#4	100	0045-0515-60	( )
VALIUM			
tab 2mg	100	0004-0004-01	( )
5mg	100	0004-0005-01	( )
10mg	100	0004-0006-01	( )
VASODILAN			
tab 10mg	100	0087-0543-01	( )
20mg	100	0087-0544-01	( )
V CILLIN K			
tab 125mg	100	0002-0327-02	( )
250mg	100	0002-0329-02	( )
	500	0002-0329-03	( )
500mg	100	0002-0346-02	( )
VIBRAMYCIN			
cap 50mg	50	0069-0940-50	( )
100mg	50	0069-0950-50	( )
VISTARIL			
cap 25mg	100	0069-5410-66	( )
50mg	100	0069-5420-66	( )
100mg	100	0069-5430-66	( )
ZYLOPRIM			
tab 100mg	100	0081-0996-55	( )
300mg	30	0081-0998-30	( )

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BENTYL       TAB 20MG
100          QTY 1
NDC 68-0123-61
            2437-1576
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NDC    68
0123-61
   5D70
  1 032
2437-1576
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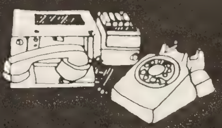
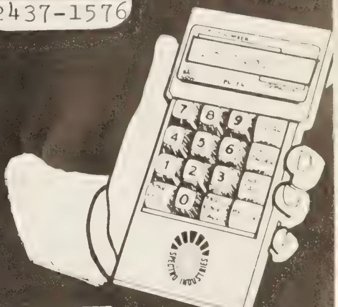
Electronic Order Entry System

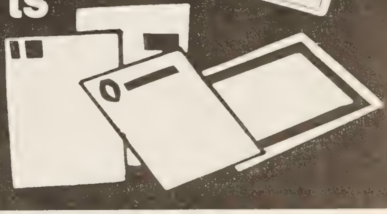
Electronic order entry Terminal for in-store use. It's lightweight, portable and enables you to order 200 line items in less than one minute. Transmits over telephone. Operational 24 hours a day . . . call at your convenience.





Turnover and Profitability Reports

Customized series of ongoing Turnover and Profitability Reports for Your Store. Helpful information compiled from product movement of items in your store.



CHECK THE *BIG PLUS* FEATURES:

- Store Identification Labels.
- Complete Product Information.
- Complete OTC and RX Pricing Stickers.
- Quarterly Label Color Change.
- Tamper-proof (non-transfer) security.
- Ink Screening of Coded Information.
- Deal Contents Have Price Stickers.
- Price Stickers for Selected Full Cases.
- NDC Numbers on All RX Products.
- Customized Pricing.
- Two Price System.

REPLY COUPON

LOEWY DRUG CO.
6801 QUAD AVENUE, BALTIMORE, MD. 21237
YES, I'd like to get more FACTS ABOUT SPACE:

NAME ____________________

TITLE ____________________

STORE ____________________

ADDRESS ____________________

CITY ____________ STATE ____________ ZIP ________

The 1980 Third Party Chart

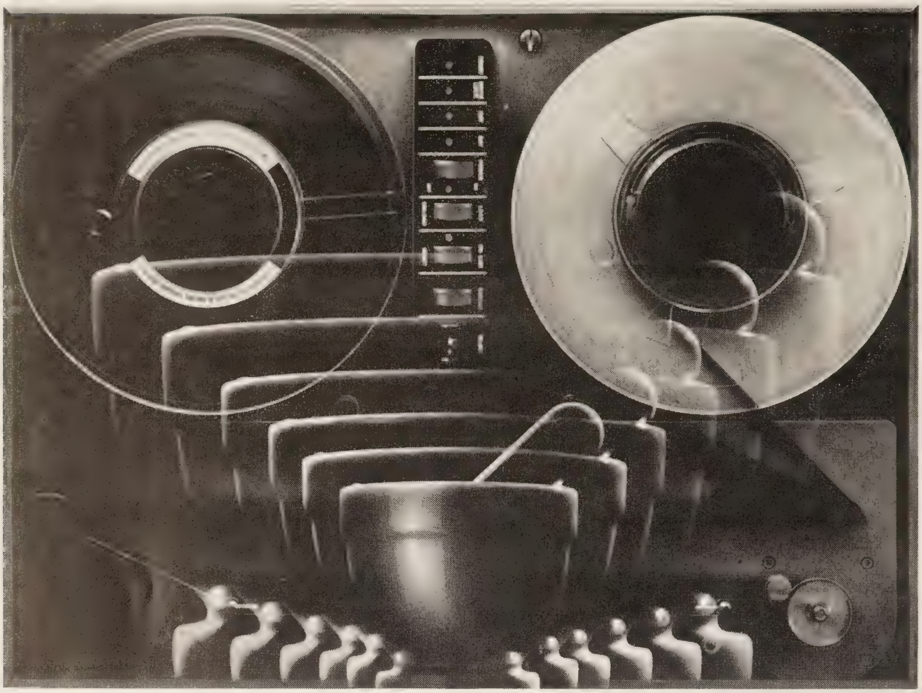
(detach these pages and post for easy reference)

Special thanks to Frank Blatt for compiling the information.

	Cost	Professional Fee	Maryland Rx Only/ Local Ordinance	OTC	BC	Insulin on Rx	Refills	Day & Dollar Limit	Claim Form	Misc.
Aetna Life and Casualty Group Policyholder Administration Pharmacy Claim Unit 151 Farmington Avenue Hartford, Connecticut 06156 (203) 273-4729	ACQ	$2.60	No/No	Varies — refer to ID card	No	Yes — U + C but not needles	1 year	Max — 34 days no dollar limit no quantity limit (see misc.)	Universal	Maintenance drug list — 100-200 doses
Associated Prescription Service (APS) The Chesapeake Bldg. 9017 Red Branch Rd. Columbia, Md. 21045 (Balto.) 995-1941 (Wash.) 621-5150	ACQ	Maryland Plans — $2.25 Funds 1, 13 — $2.15 compounded with 3 or more ingredients — prof. fee $1.25	Yes/Yes	No — Except Plans 1, 3, 4, 8 (cover only certain OTC's Check manual list.)	No — Except Plans 1, 3, 5, 7 Cost + 50%	Yes — Cost + 50%	1 year	Funds — 5, 34, 86, 99, 103 — 34 days; 100 days for maintenance list 1, 3, 4, 6, 7, 25, 26, 36, 37, 71, 285 — 100 days Others — greater of 34 days or 100 doses	APS or Universal	
Blue Cross of Maryland 700 East Joppa Road Towson, Maryland 21204	ACQ	$2.50	Yes/Yes	No	No	Yes — up to 4 vials U + C	1 year	Greater of — 34 days or 100 doses No dollar limit (see misc.)	BC claim form	Maintenance drug list — 100-200 day supply
Chesapeake Health Plan 4940 Eastern Avenue Baltimore, Maryland 21224 (301) 342-7300	AWP	U + C or $2.55 (same as Medicaid)	Yes/Yes	Yes if ordered by doctor	Yes — up to 3 months	Yes	One Refill	90 days Pre-authorization over $20 Call — 342-7300	Medical Assistance	
Esskay c/o MPhA 650 West Lombard St. Baltimore, Maryland 21201 (301) 727-0746	AWP	$2.45	Yes/Yes	No	No	Yes	No defined limit	No defined limits	Universal	
Iron Workers #16	AWP	$2.00	Yes/Yes	No	No	Yes	Five	Greater of 34 days	Universal	

Medicaid Medical Assistance Operation Administration State Department of Health & Mental Hygiene P.O. Box 1935 Baltimore, Maryland 21203 (301) 383-2658	ACQ or MAC price	lower of U + C or $2.55	Yes/Yes	No	Yes. 180 day limit but no OTC's	Yes — if on Rx	Two within 100 days if on original Rx	100 day maximum *including* prespecified refills. Pre-authorization needed if ingredient cost exceeds $20.00	Medical Assistance	Will pay for needles on Rx up to $10. Red & White Card — 50¢ deductible. Yellow & White Card — $1.00 deductible.
Metropolitan Medimet Claim Office P.O. Box 56 Utica, N.Y. 13503 (315) 797-5405	ACQ	$2.25	Yes/Yes	No	No	Yes	1 year	100 days except for General Motors, Hecht, VW — 34 days or 100-200 units from specified maintenance lists.	Universal	
1199 National Benefit Fund Prescription Plan 310 West 43rd Street New York, N.Y. 10036	AWP	$2.60 ($1.00 extra for compounding)	Yes/No	No	Yes — Oral contraceptives No — Diaphragm	Yes	Five within six months	30 days Maintenance list — 100 doses No dollar limit	Their own	
Paid Prescriptions P.O. Box 434 Paramus, New Jersey 07652 (201) 845-9000 1-800-631-1679	Plans 2A, 3, 3B — ACQ Others — AWP	Group 1 / Group 2 Acme, Carpenters $1.85 / $2.10 UPS $2.55 / $2.80 Allegheny, Agronomy, Michelin, PBS, Provident, Trans-Supply $2.45 / $2.70 Bakery & Confectionery $2.25 / $2.50 Electrical Welfare, Hochschild-Kohn $2.00 / $2.25 A&P, TWUA Health $2.25 / $2.25 Boeing $2.60 / $2.60 Milk Drivers, Worthington $2.50 / $2.50 Pressman $2.65 / $2.65	Yes/Yes Except Plans 2 & 2A	No	No Except Plans 4 & 6 — up to 3 months but no diaphragms	Yes Cost + 50%	Per MD	Plans 2A, 4, 5, 6, 7 — 34 days or 100 units Plans 3, 3B, 5A — 100 days — Refer to maintenance list — 200 units Plan 5B — 60 days	Paid form or Universal (date of birth required)	Needles not covered except Plans 6 & 7. must include paid account number
Pharmaceutical Card System (PCS) P.O. Box 20831 Phoenix, Arizona 85036 (602) 257-1500	Plans — 20, 83, 115, 121, 137 — ACQ Others — AWP	Plans 081, 083, 91, 94, 100 104, 115, 134, 137, 165, 213, 219 240, 256, 300, 309, 310, 327, 378 — $2.55 252 — $2.05, 181, 242 — $2.15 105 — $2.25, 191, 195, 200, 112 — $2.60 20, 25, 152, 232, 430 — $2.65 196, 315 — $2.75, 121 — $2.85 399 — $2.85, 422 — $2.65 412 — $2.85	Plans 104, 105, 115, 121, 152, 195, 252 — Yes/No All others — No/No	No Except Plan 166 — Allows sugar test tape or tablets, acetone test tablets, Benedict's Solution, syringes & needles	No Except Plan 195	Yes — Cost + 50%	1 year maximum	31, 137 — no limit 104, 105 — greater of 34 days or 100 doses 115 — 100 days 91,94 — 34 days supply *See exception list. 40 doses antibiotics 4 oz. cream or oint. Others: 34 days *See exception list.	Universal	Include drug name on form
Pharmaceutical Services Foundation (PSF) P.O. Box 10472 Baltimore, Maryland 21209 (301) 466-1183	AWP	Members — with Patient Profiles — $2.75 Others — $2.50 Non-Members — $2.10	Yes/Yes	No	No	Yes	1 year	34 days except maintenance drugs & antibiotics — up to 100 doses	Universal	Include drug name on form
Prescription Drugs, Inc. (PDI) 9008 Red Branch Road Oakland Ridge Industrial Park Columbia, Maryland 21045 (301) 997-3550	ACQ	$2.15	Yes/Yes	No	Indicated on individual card	Yes	Per MD	Greater of 34 days or 100 doses	Universal	
Prescription Plan Service 500 Eighth Avenue New York, N.Y. 10018 (212) 279-5950	AWP	$2.50 $3.50 for compounding	Yes/Yes	Yes	Yes but no diaphragms	Yes	One Allowed	Greater of 30 days or 100 doses	PPS physician originated form.	Include State store license number on form.
Travelers Insurance Company LAG/RAM Claim Department P.O. Box 5307 Hamden, Connecticut 06518 (203) 277-7108	Plan 1 — ACQ Plan 2 — AWP	$2.50	No/No	No	No	Yes	1 year	34 day specified maintenance list — 100 doses	Universal	Must be member Pharmacy

LOOK WHAT'S BECOME OF THE MORTAR AND PESTLE.



It's where pharmacy is today. And tomorrow's pharmacists are learning about it right now.

Change is constant in the pharmaceutical industry. New classes of drugs are being developed. Computer technology is expanding horizons from research to drug synthesis to final manufacture. New precision equipment is helping to produce consistently reliable products. New marketing techniques are evolving. And new government regulations are being proposed which could affect the way pharmacy is practiced.

These changes are taking place at a rapid pace—so rapid, in fact, that the Pharmaceutical Manufacturers Association has created a unique educational program to help keep pharmacy school faculty, students and practicing pharmacists aware of current industry practices.

THE PMA PHARMACY FACULTY PROGRAM. REACHING THE PROFESSION THROUGH THE PHARMACY PROFESSOR.

Now in its fourth year, the PMA Pharmacy Faculty Program is an invitation to educators to see firsthand what's going on in the pharmaceutical industry. Participants in the program spend two weeks at the facilities of a major pharmaceutical firm, taking part in a series of daily conferences with its scientists and executives. During this time, they get an overview of industry, technology, and approaches associated with research and development, marketing and distribution, production and quality control.

These faculty members can then bring back the knowledge gained to their students in the classroom, and to you, the practicing pharmacist, in continuing education programs.

The PMA Pharmacy Faculty Program. It's one of the things we're doing to help keep the profession up to date on industry operations.

For more information write to: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005, Attention: Dr. John S. Ruggiero.

PMA

Contributing to pharmacy education.

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Roche has been creating innovative programs for years.
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Roche Pharmacy Guaranty of Indemnity Protection
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RETRIEVE...
Roc Medic Emerge Line
ROCHE REFERENCE SERVICE FOR PHARMACISTS
TOPICS OF CONTEMPORARY INTEREST MADE AVAILABLE THROUGH YOUR ROCHE REPRESENTATIVE
SERVICE FOR PHARMA
Guide To Good Pharmacy Management
Guide To Good Pharmacy Manageme
Advertising
Roche Return Goods Policy

See how many you use.

(Check the reverse side of this page.)

At last count Roche Laboratories offered more than 28 pharmacy programs...and the list is growing. Here is just a sampling:

Liberal Return Goods Policy—
Gives any pharmacy credit for outdated or discontinued items whether full or partially used, for unopened items currently in the product line, and for items which appear old, deteriorated or otherwise unsalable.

Product Liability Guarantee—
Roche guarantees product liability protection when a product liability lawsuit or claim involving a Roche product arises under the conditions stipulated, provided the pharmacist has lawfully and properly executed his professional responsibilities.

Convenient Packaging—
Packaging has been designed to minimize space requirements; major Roche products are available in Prescription Paks.

Disaster Policy—
In the event of a disaster, Roche will assist a retail pharmacy, wholesale house or hospital pharmacy by restocking all Roche merchandise which is no longer salable.

Roche Reference Service for Pharmacists—
23 categories on contemporary issues relevant to pharmacists, such as biopharmaceutics, IV additives and therapeutic equivalency; available in folder format.

Postgraduate Pharmacy Education (PGPE)—
Provides honoraria for guest speakers and sponsors seminars for pharmacists' continuing education.

Roche Medical Emergency Line (201-235-2355)—
24-hour service answers emergency questions you may have about any Roche product.

Drug Abuse Warm Line—
Taped discussions with experts on the subject of drug abuse are available by telephone.

Continuing Medical and Pharmacy Education Programs (NCME)—
Videotape and film programs plus other materials available for meetings.

Pharmacist Antibiotic Therapy Test (PATT)—
A self-assessment learning program on film and videotape.

Depressive Disorders Therapy Test—
A television self-assessment program based on simulated case situations; current concepts in the psychotherapeutics of depressive disorders are reviewed.

Retrieve Roche Product Information—
Computerized library of over 50,000 published papers on Roche products; bibliographies and reprints are available through the Roche Representative.

Speaker Reference Service—
Supplies, reprints or other pertinent information for preparation of speeches for presentation to professional groups.

National Pharmaceutical Council (NPC) Summer Internships—
Selects pharmacy students to work at Roche where they are exposed to the day-to-day operations of a pharmaceutical company. This program is designed to broaden the student's awareness of the industry's role in health care.

For more information write to Roche or contact your Roche Representative.

ROCHE

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

LETTERS

Dear Mr. Banta:

Thank you for your letter of September 7, 1979 regarding increased Medical Assistance reimbursement to participating pharmacies.

I am advised at this time that funds are not available in the fiscal year 1981 budget for selected fee increases for individual provider types in the Medical Assistance Program. All additional funds that were made available in the fiscal year 1981 Department of Health and Mental Hygiene budget will be needed to meet increased costs in the institutional programs.

I am aware, however, that the Medical Assistance Program is preparing requests and justifications for fee increases for the various non-institutional parts of the Program. These requests will be considered as part of a total state package of needs in light of any funds that may become available. I feel certain that increased fees to pharmacy providers will be given every equitable consideration.

Once again, thank you for bringing your concerns to my attention.

Sincerely,

Harry Hughes
Governor

Mr. Paul Frieman, Secretary
Maryland State Board of Pharmacy
201 W. Preston Street
Baltimore, Maryland 21201

Dear Paul:

(1) For the record, I am a licensed pharmacist, practicing in Maryland, and the owner of a Maryland licensed pharmacy.

(2) On September 1, 1979, I received notice via a newsletter from the Maryland Pharmaceutical Association, stating that on August 15, 1979 the Maryland State Board of Pharmacy conducted a public hearing to provide the general public and pharmacists an opportunity to comment regarding new regulations which the Board has suggested concerning Pharmacy practice (i.e. security).

(3) I do not believe that the principle of "public notice" is satisfied when a licensed Maryland pharmacist is informed 17 days after the fact. If I were not on the mailing list of the Maryland Pharmaceutical Association I would still not be aware that a State agency has proposed new rules or regulations that change the lawful practice of pharmacy. I would hope that such procedures, which in effect, cause the Board to operate in secret would stop. I would suggest that any changes to the practice of pharmacy be presented to Pharmacists in a variety of forms throughout the State and/or direct written notices to all licensed pharmacists requesting comments so that a true consensus of views are heard.

(4) With sparse information at hand, I believe that the proposed regulations are an oppressive and unmerited burden upon those pharmacists who presently operate or will in the future practice as sole practitioners in either a small office-like environment under 1200 sq. ft. or small shopping center commercial footage. Requiring security barriers in such pharmacies is an economic hardship, a physical eyesore, and an unwarranted government intrusion upon the personal liberties and freedoms of Pharmacists who practice in small independent pharmacies.

A physician is not prohibited by law from having designated personnel in his office when he is not on the premises. A dentist or podiatrist is not prohibited by law from having their employees answer their office telephone when a licensed person is not on the premises. A lawyer is not required by law to safeguard his office from his employees. Is the Board so near-sighted that they cannot separate the health and welfare of the people of Maryland from those interests who have continually molded the profession of Pharmacy into a regulatory nightmare.

A Pharmacist should be able to get a haircut, a hot meal, go to the dentist, or a funeral — that is leave the pharmacy premises with the same freedom that other licensed health professionals exercise and have a trusted individual answer the telephone and generally function as a secretary for a short period of time.

My specific suggestions to the Board are as follows:

(1) Pharmacies under 1200 sq. ft. and not located within another building should be exempt from barrier regulations.

(2) A Pharmacist should be able to leave the licensed premises and designate an unlicensed individual to function as a secretary. A requirement could be made that such an individual be registered with the Board as serving the licensed Pharmacist in such a capacity. The Board should foster the individual practice of Pharmacy and not stifle or destroy the essential needs of such a practice by over burdening government regulations that clearly do not serve the public's needs and greatly harm the future practice of pharmacy.

Sincerely,

M. Neal Jacobs, Registered Pharmacist
Belair Professional Pharmacy
7414 Laurel-Bowie Road
Bowie, Maryland 20715

Dear Dave:

After five long and hard years our pharmacy students graduate and go into practice. One year later I find many of them unhappy, disillusioned, and resentful. Instead of practicing the profession in a manner that they expected, they are still forced to the dispensing of drugs the same way that it was practiced 25 years ago.

Which brings me to my next complaint. Pharmacy Law. Why are we being drowned in pharmacy laws? Maybe it is the only way many pharmacists can be forced to practice in the proper manner. If the pharmacies do not put on the proper labels instructing the public how to use their medication, do not maintain patient medication profiles, do not take the time to consult with patients when it is necessary, in a short time we shall have stupid laws like PPI's making it mandatory to do things instead of using our professional judgment. It is time we realize who causes the laws to be passed. It is us.

Sincerely,

Melvin J. Sollod

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Paramount
PHOTO SERVICE

FALL STOCK-UP PROMOTION

October 1, 1979–November 30, 1979

Extra Profit Opportunity On These Popular Brands

A·H·ROBINS
Allbee with C
HIGH POTENCY VITAMINS
The Genuine Allbee® with C
30 WITH 100 ECONO·PACK
Allbee with C
100 CAPSULES
Allbee with C
30 CAPSULES

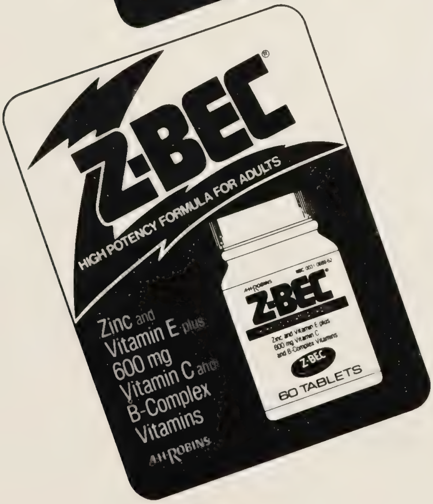
Allbee® with C

The senior member of the Robins vitamin line.
The all-time best-selling B-Complex with C brand.

20% Off-invoice allowance

5% PLUS Display allowance*

10% PLUS Co-op advertising allowance


Z-BEC®
HIGH POTENCY FORMULA FOR ADULTS
Zinc and Vitamin E plus 600 mg Vitamin C and B-Complex Vitamins
A·H·ROBINS
Z-BEC
60 TABLETS

Z-BEC®

A leading brand in less than two years.

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Extended dating:
See your A. H. Robins representative for full details.

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Richmond, Va. 23220

A lot more goes into Abbott drug products than simply drugs.

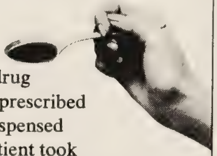
Gerry Hietala, Abbott research pharmacist, on flavoring:

"One 'yuck' from any of these panel members and it's back to the drawing board. This is the final, most critical test for flavoring in our suspensions. No matter how much effort goes into the flavoring system of a pediatric drug, this is the bottom line. Kids simply won't take a bad-tasting medicine.

There are two basic objectives in flavoring a suspension; first, naturally, you want to mask the drug taste. Erythromycin is a prime example. It's bitter. Second, you want to maximize flavor stability. Over a period of time even insoluable drugs will hydrolyze to a limited extent. The flavoring must be able to cover the increased bitterness to maintain palatability of the suspension.

We've developed a product that minimizes the amount of free erythromycin base that will develop, and we carefully control the quality of the starting drug. These two factors assure long-range stability . . . *and good taste* . . . when the product is out in the field.

Quality is built into our product through a sophisticated system of flavor assessment. We utilize statistical preference testing in addition to the flavor profile method. These help us to arrive at a top quality taste and assure that it will be maintained in production. The result is a good-tasting product with maximum stability . . . medicine a sick kid is going to take for ten days without a single 'yuck'."



This is the drug
The doctor prescribed
That you dispensed
That the patient took
That Gerry flavored.
We're in this together.

ABBOTT LABORATORIES
Pharmaceutical Products Division, North Chicago, Illinois 60064

E.E.S.® BRIEF SUMMARY
ERYTHROCIN® ETHYL SUCCINATE
(ERYTHROMYCIN ETHYLSUCCINATE)

Indications:

Streptococcus pyogenes (Group A beta hemolytic streptococcus)—Upper and lower respiratory tract infections, skin, and soft tissue infections of mild to moderate severity, where oral medication is preferred. Therapy should be continued for 10 days.

Alpha-hemolytic streptococci (viridans group)—Short-term prophylaxis of bacterial endocarditis prior to dental or other operative procedures in patients with a history of rheumatic fever or congenital heart disease who are hypersensitive to penicillin.

S. aureus—Acute infections of skin and soft tissue of mild to moderate severity. Resistant organisms may emerge during treatment.

S. pneumoniae (D. pneumoniae)—Upper and lower respiratory tract infections of mild to moderate degree.

M. pneumoniae — For respiratory infections due to this organism.

Hemophilus influenzae: For upper respiratory tract infections of mild to moderate severity when used concomitantly with adequate doses of sulfonamides. Not all strains of this organism are susceptible at the erythromycin concentrations ordinarily achieved (see appropriate sulfonamide labeling for prescribing information).

Treponema pallidum—As an alternate treatment in patients allergic to penicillin.

C. diphtheriae and C. minutissimum—As an adjunct to antitoxin. In the treatment of erythrasma.

Entamoeba histolytica—In the treatment of intestinal amebiasis.

L. monocytogenes—Infections due to this organism.

Establish susceptibility of pathogens to erythromycin, particularly when *S. aureus* is isolated.

Contraindications:
Known hypersensitivity to erythromycin.

Warnings:
Safety for use in pregnancy has not been established.

Precautions:
Exercise caution in administering to patients with impaired hepatic function. During prolonged or repeated therapy, there is a possibility of overgrowth of nonsusceptible bacteria or fungi. Surgical procedures should be performed when indicated.

Adverse Reactions:
Dose-related abdominal cramping and discomfort. Nausea, vomiting, and diarrhea infrequently occur. Mild allergic reactions such as urticaria and other skin rashes may occur. Serious allergic reactions, including anaphylaxis, have been reported.

8013236

James Krahulec, Manager of Government Affairs for the Rite Aid Corporation, was the speaker at the September BMPA meeting.

BMPA President Ralph Quarles (left) accepts the NARD Leadership Award from the Chairman of the Board, Milton Sappe.

Prince George/Montgomery County Pharmaceutical Association Officers and Trustees are installed at the Annual Banquet by MPhA President, Ronald Lubman.

Pharmacy Times *Editor, Irving Rubin, was the speaker at the PG/MC Banquet.*

Picture Courtesy
Paramount Photo
Service

Marvin Friedman (far right), Chairman of the MPhA Third Party Committee, testified before a Congressional Hearing looking into Medicaid. Others are (left to right) John Tucker, Jr., NARD staff; Senator Walter D. Huddleston (D-Ky.); Joseph H. Schutte, NARD Executive Committee; and Pharmacist Harvey A. Pratt.

Many of the Past Presidents of the Ladies Auxiliary of the Maryland Pharmaceutical Association stand before the Plaque honoring LAMPA Past Presidents that now hangs in the MPhA Board Room.

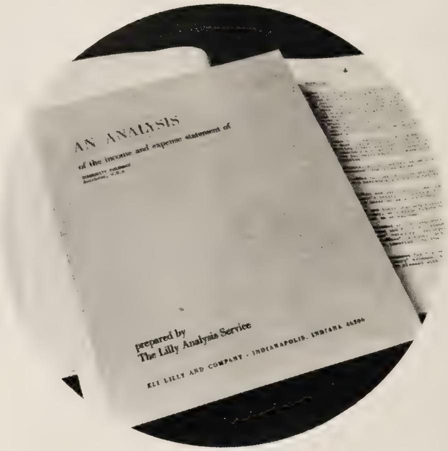
Rx For Profit

The Lilly Digest / 1979

Lilly Digest

An annual summary of financial operations of community pharmacies, arranged to allow comparison with any pharmacy's figures.

- Practical guide
- Standard accounting format
- Comparative reference


AN ANALYSIS
of the income and expense statement of
prepared by
The Lilly Analysis Service
ELI LILLY AND COMPANY · INDIANAPOLIS, INDIANA 46206

Lilly Analysis Service

A detailed analysis available to individual pharmacy owners, with suggestions for improvements where indicated.

- Individually prepared
- Completely confidential
- No charge

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Purepac offers the generic line for every state substitution law.

No other manufacturer of generics can make compliance with the state model substitution law easier. Because Purepac, America's leading manufacturer of a national brand of generics, offers virtually all the FDA's listed multi-source generic drugs. And Purepac gives you a lot more:

- the ease of stocking just one major generic line
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So next time you shop generics, shop the generic company, Purepac. The model line for the model state substitution law.

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THE LEADING NATIONAL BRAND OF GENERICS

We've Joined Hands to Offer You A Complete Buying Program For Greater Profit.

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PHONE: 467-2780

Now YOU Can Consolidate Your Purchases With These Creative & Innovative Companies and SAVE!

Don't let these "bugaboos" confuse you.

You can receive full and fair reimbursement on your Medicaid prescriptions.

- It's worth re-emphasizing that every participating* state will reimburse for branded TYLENOL® with Codeine Ⓒ (acetaminophen plus codeine) tablets—up to MAC (Maximum Allowable Cost).

- Reimbursement will cover your cost (up to MAC) plus your professional fee for handling and dispensing (as established by each state).

- This is true regardless of AWP (Average Wholesale Price) listings.

  AWP listings are not the standard by which to gauge MAC allowances.

- To determine compensation, consider your actual acquisition cost (AAC)—plus your professional fee.

- It adds up to this: You can dispense TYLENOL with Codeine tablets and receive full and fair reimbursement (up to MAC) for your Medicaid prescriptions year round.

- Although McNeil is not involved in reimbursement, we'd be glad to supply further information. See your McNeil Representative—or write to us.

*Alaska, Arizona and Wyoming do not participate in a federally funded drug reimbursement program.

McNEIL McNeil Laboratories, McNEILAB, Inc., Fort Washington, PA 19034

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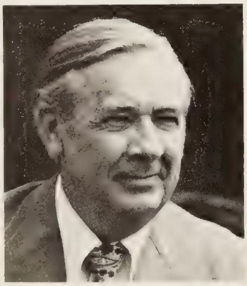
Our best friends are our severest critics and our greatest assets.

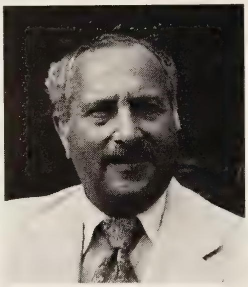
Meet our 1979 Pharmacy Consultant Panel.

Donald A. Dee, R.Ph., Exec. Sec.,
Minnesota Pharmaceutical Assoc.
Minneapolis, Minnesota

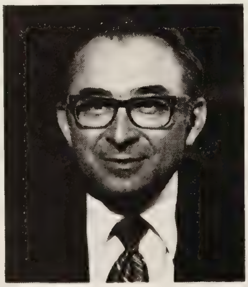


Benjamin F. Cooper, Ph.D.,
Dean, School of Pharmacy
Auburn University, Auburn, Ala.

Nelson E. Taylor, R.Ph.
Community Pharmacist
Nampa, Idaho



Arthur Koorhan, R.Ph., Div. V.P.,
Pharmacy Operations, Cunningham
Drug Stores, Detroit, Michigan



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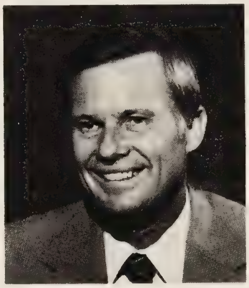

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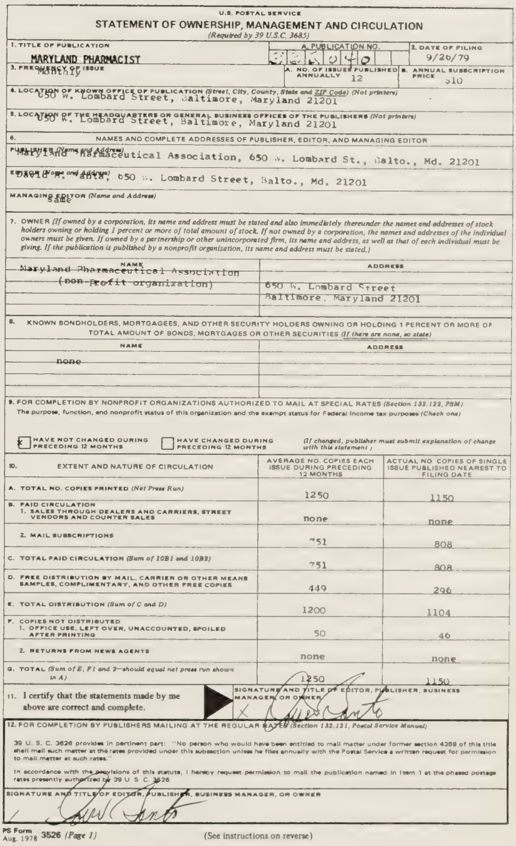

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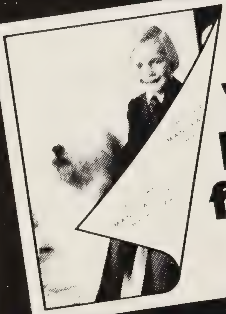

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THE MARYLAND PHARMACIST

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DEC. 1979
VOL. 55
NO. 12

Promoting your Professional Services

— William F. Pillow, Jr.

The New Maryland Drug Product Selection Act

— Dayle Berke

When is a "Deal" Really a Deal?

— Bruce R. Siecker

Winner, 1979 Sandoz
Medical Journalism Award
for State Pharmacy Journals

THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET
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President's Message

Guest Editorial

by

Alvin N. Geser

Executive Director
New Jersey Pharmaceutical Association

Reprinted from the November, 1979 issue
"The New Jersey Journal of Pharmacy"

Is there an escape from the oppression of third-party prescription programs designed by others and forced upon the pharmacist? By what right do others, knowing little or nothing about pharmacy, caring little or nothing about pharmacy, have the right to design programs utilizing many experienced, yet so-called unmindful administrators, for the express purpose of squezzing the pharmacists' economic life blood from him?

Many administrators are like the three little monkeys which see no evil, hear no evil and speak no evil. The only thing they seem to be able to do is find a customer, preferably a big one, and then without concern for the pharmacist and even for the consumer they serve, administer little pieces of paper, make themselves a great deal of money in some instances, and leave the pharmacist and the patient at odds where formerly an excellent relationship existed.

The mindlessness of this system is compounded by the recent information that the administrative costs to the pharmacist for filing one claim ranges from a low of 19¢ to a high of almost $2.00 with a mean in the 65¢ range. Add to this extra cost on our part, the administrative fee paid to the third-party administrator, which is generally admitted to be in the 30¢ to 50¢ range. The administrative costs therefore exceed $1.00 on both sides, which does not include the administrative costs of the ultimate buyer, that certainly must be another 5¢ or 10¢ per prescription for a grand administrative burden on the health care system of about $1.25 per prescription. With the average prescription price amounting to about $7.00, this is an administrative cost of almost 20%.

Two decades ago experiments on prescription insurance in Canada led actuarials at that time to indicate that prescription insurance was not economically self-sustaining. The administrative costs would be too great, the risk was too small to be directly insurance and the public need for such a program would probably not justify it. However, these early experiments did not comprehend the enormous pressure this additional fringe benefit would create which is really prescription prepayment, and every often a fringe benefit of employment. Neither did they contemplate the huge government subsidy programs which would provide a viable administrative base making possible all the smaller programs.

Pharmacists are trapped in the web and desperately need a way out. The first thing administrators do to keep the web closed is to refuse to supply full information to the pharmacist. It took us years to achieve even the partial success that the reconciliations coming back to the fee paid in each case. We have yet to achieve success in many instances for some method of signaling the pharmacist when a billing was grossly understated — the federal government being the chief culprit in this case.

Let's fight back!

First, pharmacists should be aware that they have a right to refuse any prescription plan in any program which they have accepted if the fee for that particular program is substandard. Too many pharmacists accept any prescription and any plan merely because they have signed up with the individual administrator. That is not necessary in most cases where the fee varies from plan to plan within one administrators program.

While the antitrust laws remain constant and pharmacists cannot get together to freeze out any particular plan, pharmacists must make critical independent judgments and refuse plans which pay them less than their cost of doing business. We are rapidly arriving at the point where competition in this area will destroy itself by accepting substandard plans, so that the resolute, not the compliant, will survive. In those cases where the fees or other requirements of the program are marginal, pharmacists must speak up to program administrators and to buyers. Pharmacists must tell their patients that the plan is inadequate. Pharmacists must demand the right to realize a surcharge over the allowed fee when the allowed fee does not pay for the cost of doing busines, similar to the Blue Shield system which permits physicians to do the exact same thing.

The antitrust laws do not prohibit the exchange of information among pharmacists. They do prohibit agreements which restrain trade. If survival means anything, it means that the pharmacist should exchange information at every conceivable opportunity and then make independent hard decisions which force buyers and administrators to cope with the realities of our needs, as well as with their own.

Have a Happy and Safe
Holiday Season

Ronald A Lubman

RONALD LUBMAN

Promoting Your

Pharmacist-patron communications is a popular topic in pharmacy today, but it's widely misunderstood and more pharmacists agree with it in principle than in practice. Yet it's one of the greatest opportunities pharmacists have for increasing patronage and improving their professional standing.

Price still appeals to many patrons. But several large pharmacy chains are now saying that price has been pushed as far as it can go, and personal service is the new direction for building patronage. Maybe it's because personal attention and service have become a rarity in the commercial world. How often do you find this when you're out shopping for clothes, hardware, or other things?

Pharmacies can market personal service in many ways to enhance their professional image and patronage. One of the most effective means is through patient consultation — not the 30-minute intensive interview that this term usually conjures up in pharmacists' minds but the general accessibility of the pharmacist to answer questions and assure proper understanding about medication. Not every prescription, every filling, or even every patient requires a detailed explanation or a lengthy talk with the pharmacist. Many a pharmacist uses ancillary prescription labels for added instructions and calls patients' attention to these. But he or she is there, visible, and personally available, if needed.

The time is certainly right for promoting the pharmacist's professional services. Today's patrons are likely to feel familiar with certain diseases and some of the newer therapeutic agents. They probably view drug abuse with alarm, may be unclear about the distinctions between illicit and legal drugs subject to abuse or misuse, and generally have heard about potential interactions between alcohol and drugs. They often read about surveys suggesting that some pharmacies charge more than others, hear claims that manufacturers and pharmacies make excessive profits, and are told that they can save money by asking for generic drugs. But, like the old adage, a little knowledge can be a dangerous thing. They may form misconceptions about things with which they *feel* familiar but actually do not fully understand. When reasons and explanations are not provided, they may invent them. Above all, they don't like being sick and don't enjoy having to pay to get well! Consider what could happen in the following situations and how you could help — in both the patient's and your own best interests.

Full Course of Treatment

Once symptoms subside and patients begin to feel better, they may take fewer doses of their medication or even stop it altogether. They may believe that the drug has pretty well done its job, and they may wish to save some of the medicine in case the condition recurs. Antibiotic therapy is a good example, since its use can produce a dramatic response and, in a few days, make the patient think he or she has completely recovered. But in oral penicillin therapy for strep throat, for example, stopping the drug too soon may have disastrous consequences. From a business viewpoint, of course, when doses are saved for a future illness, it could mean the absence of a new prescription the next time that patron is ill. From a professional standpoint, it could mean self-medication with an unsuitable drug or one that has lost potency but encourages a false sense of security. An added word or two to insure that dosage instructions are understood and followed, particularly when a new prescription is dispensed, seems therefore to be good business — as well as professional — practice.

Failure to Have Prescription Filled

The effect of this, from a business viewpoint, seems almost too obvious to mention. Reasons for not having a prescription filled may run all the way from "It's too expensive" or "I don't have enough money" to "I'll get by without it" or "It really can't be that important." Still, if no opportunity is afforded for talking with a pharmacist, the patron may simply rely on his or her own conclusions and decide not to have a prescription filled. In a recent study, *The General Mills American Family Report 1978-79*, prepared by Yankelovich, Skelly, and White, Inc., 10 percent of those surveyed admitted postponing having prescriptions filled "to see if they really need them."

Treatment of a Chronic Condition

This situation may seem like a replay of the first one. The difference is that it involves the matter of a patron's continuing to take doses at the proper frequency over a period of time and perhaps refilling a prescription over a period of months or even years. Since symptoms may never have been apparent to the patient or may have been forgotten after the disease was brought under control, the patient may be inclined to test the possibility of "stretching" doses or perhaps even doing without the medication. This may go undetected unless the pharmacist has some sort of system

Professional Services

by William F. Pillow, Jr.
Manager, Professional Relations
Eli Lilly and Company

for monitoring refills of chronic medication. Therefore, it seems in the best interests of both the patient and the pharmacy to explain the importance of refilling the prescription and taking the medicine properly and to keep in touch with the patient to make certain that this is being done.

Price Shopping

Once patients have accepted the fact that they must remain on maintenance medication, they may begin to feel a certain self-confidence that can alter their attitude about the drug they are taking. No longer present are the uncertainties they probably felt when the prescription was first filled — anxiety about their condition, apprehension about the prognosis, and little understanding at that point about the method and objective of therapy. Now their uncertainty, if they have any, is probably related to whether they can save any money on their medicine. The pharmacist may not realize what is happening and may lose a patron simply because of a small difference in price. Since the patron's confidence in his or her medication and interest in price shopping are at least partly the result of an inadequate understanding about the prescription, it behooves the pharmacist to explain such things as the importance of continuing to use the same brand of medication. This also provides an ideal opportunity to elicit any questions or concerns about price and to describe the pharmacy's services. The outcome could prove beneficial to both the patient and the pharmacy.

Information about Side Effects

This probably is the most controversial, since it may be claimed that, when a possible side effect is mentioned, a patient will expect and, therefore, "experience" it. Yet, if the patient does actually suffer a side effect without having been told that it may occur, the pharmacist may be the last person he or she calls to complain. Not only might the patient develop an unfavorable impression about the pharmacy and possibly be unwilling to continue the medication; a potential liability could result if the patient drove and had an accident, for example, while taking a drug that produced drowsiness. Here, again, it seems in the best interests of both the patient and the pharmacy to take the time to explain possible side effects.

Your state association is taking steps to help promote your professional services. It is contacting radio and TV stations throughout the state to urge them to broadcast a new series of public service messages made available by Eli Lilly and Company, designed to tell the public how you can help them better understand and utilize medicines. The credibility of this program will, of course, depend on what happens when the listener or viewer enters your pharmacy. You can reinforce these messages and enhance your pharmacy's image by being accessible and communicating with your patrons. What better way can the pharmacist promote his or her professional services?

PS
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"Pour and Count" as four relay teams competed in the Second Annual Rho Chi Pharmacy Olympics competition. Different campus and fraternal organizations competed in the mock olympics for fun and prizes at the Student Union.

Pictures courtesy of Paramount
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Part of the 350 person overflow crowd that attended the C.E. seminar on "Inflammation: The Discriminate Use of Steroids." The Seminar was supported by Schering and sponsored by the School of Pharmacy, MSHP and MPhA through the newly created Continuing Education Coordinating Council.

It's not what you think (or maybe it is). The fourth year Pharmacy Class held a Halloween party in the basement of the Kelly Building.

Glenn Miles, SAPhA Chapter President, was also elected as a Delegate at Large at the recent SAPhA Regional meeting.

The New Maryland Drug Product Selection Act

Presented by

Dayle Berke, Attorney
Bureau of Consumer Protection
Federal Trade Commission

Before the
1979 Fall Regional Meeting

I am sure you know that much of the work we do at the Federal Trade Commission ultimately affects you, your profession, and your pocketbook. In recent years the Commission has had many projects and cases which could affect you directly or indirectly in your roles as pharmacists and as retailers.

It is not surprising that the FTC's entry into the health care scene has been greeted by some with all the enthusiasm one would expect for a second coming of the bubonic plague. After all, it is not as if health care is suffering from a lack of government regulation or attention.

I also realize that there are no words in the English language more suspect that "I'm from the federal government and I'm here to help you." Nonetheless, there is a natural affinity between the FTC and those health care professionals who see the role competition may play as an alternative or complement to regulation.

Before I begin discussing the new Maryland law, I'd like to give you some background on the Federal Trade Commission's involvement in the area of drug product selection. Let me first say that all of you, I suspect, know a great deal about drug product selection. I apologize in advance if I belabor any points you consider obvious or old hat.

On January 9, the Federal Trade Commission released a Staff Report on Drug Product Selection, which included a jointly endorsed FTC-HEW Model Drug Product Selection Act. The Staff Report presents the findings of our two-year investigation of drug product selection. During the course of our investigation, we collected and analyzed numerous articles, dissertations and surveys. We solicited comments and supporting documentation from representatives of brand-name and generic manufacturers, consumers, pharmacists and physicians, and worked closely with officials in FDA and HEW. We hired consultants to estimate the economic impact of drug product selection. Because 46 states and the District of Columbia now have Drug Product Selection laws, most of the focus of our investigation involved an analysis of their different provisions. We had IMS America, an independent market research firm, study seven states with different product selection laws (Arkansas, California, Delaware, Minnesota, Oregon, Pennsylvania, and Wisconsin) to help determine the provisions of state laws that most effectively encourage pharmacists to select low-cost generics.

As a result of this investigation, we developed, with the advice and support of the Food and Drug Administration, the model drug product selection law, which is intended to serve as a guide for state legislatures that are either considering enacting new drug product selection legislation or amending existing laws.

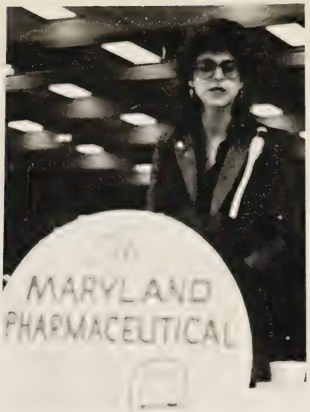
Our basic view is that antisubstitution laws restrict price competition in the multisource prescription drug market and thus impose unnecessary costs on consumers. They do so by preventing pharmacists from selecting the most cost-effective drug products for their patients. Most physicians readily admit that they have little or no knowledge of the prices of the drugs they prescribe. And they are more likely to underestimate than to overestimate those prices.

Consumers could save considerably if pharmacists were not unnecessarily restricted in their ability to substitute lower-cost generic equivalents for expensive brand-name drug products. The FTC's Bureau of Economics has estimated that wider dispensing of generic drugs could save American consumers as much as $400 million annually. This potential savings amounts to over $5,843,000 a year in Maryland alone.

Studies similarly document the savings that actually result when drug product selection takes place. Pharmacists in the seven states we surveyed estimated a 20% savings to their patients on substituted prescriptions. Studies in Michigan, Wisconsin, and Delaware have shown similar savings. This year, a prescription audit by researchers at the University of Florida reported a 32% savings in the retail price (nearly $2 per prescription) on substituted prescriptions in Florida — a consumer savings of $425,000 in a 4-month period.

Yet, existing drug product selection laws very greatly in their effect. For example, a Wayne State University study showed an 18-20% rate of product selection in Wisconsin as compared to a 1.5% rate in the neighboring state of Michigan. A number of states are actively working to make their product selection laws more effective. In view of this activity at the state level, the Commission chose not to promulgate a federal trade regulation rule, but rather, to assist states in their efforts by providing relevant information and by recommending adoption of the Model Drug Product Selection Act.

Dayle Berke



Our attempt in designing the Model Act was to make it as simple and as self-enforcing as possible, to recognize the physician's control of patient therapy, and to minimize any regulatory intrusion into the pharmacist's management prerogatives.

There are five major elements in our model law. First, the model law permits, but does not require, the pharmacist to select a lower-cost equivalent drug product. Second, the model law limits the pharmacist's selection to products listed on a formulary of all products determined by the Food and Drug Administration to be therapeutically equivalent. Third, the model law retains the physician's absolute authority to insist on the use of a particular brand-name drug product for some medical purposes. It ensures that the physician who wants a prescription for a brand-name product is doing so deliberately by requiring simply that the physician handwrite "medically necessary" or similar words on the prescription. Fourth, the model law requires that the product selected be lower in cost than the brand prescribed, but does not require that the pharmacist pass on *all* cost savings to the consumer. Fifth, the model law requires that consumers be told when the pharmacist selects a lower-cost equivalent drug product and be given the opportunity to instead request the brand-name product prescribed.

We are particularly excited about the new amendments to the Maryland drug product selection law, since Maryland is now the first state to have essentially adopted the provisions of the model law.

Perhaps the most critical change in the Maryland law, and certainly the one with the greatest economic impact on pharmacists and consumers as well, is the cost-savings provision. The Maryland law no longer requires the pharmacist to pass on the entire cost savings to consumers. The product selected need only be lower in price than the brand product prescribed.

Many states, like Maryland, initially, have tried to achieve the maximum savings possible by requiring pharmacists to pass on to consumers all wholesale cost savings. This appears on its face to be pro-consumer, but in practice is contrary to consumers' best interests. This provision means the pharmacist cannot profit by so much as a penny for costs that may be incurred in using his or her professional skills to search for, stock, and dispense lower-cost generics. Rather than encourage competition, mandatory pass-ons may provide an economic disincentive for pharmacist source selection. Our survey confirms that a substantial number of pharmacists, particularly pharmacy owners and managers, state that such provisions often deter them from selecting lower-cost generics. Mandatory pass-ons of all cost savings may be unworkable as well as unnecessary. It is difficult to specify the savings that must be passed on because pharmacists' pricing systems vary and because an actual event (the sale of the dispensed product) must be compared with a hypothetical event (the sale of the brand prescribed but not dispensed). To enforce and monitor pass-on provisions would require ascertaining the wholesale costs and retail prices of the prescribed and dispensed products at the time a particular selection occurred. This determination would certainly be costly and might be impossible.

Under the new Maryland law, as with the model law, a pharmacist no longer has to spend time attempting to calculate the difference in price between the brand prescribed and the drug product actually dispensed. Nor must the pharmacist pass on the *entire* cost savings to the consumer. This new scheme inures to the benefit of pharmacist and consumer alike. The pharmacist can be compensated for any additional costs incurred in selecting the drug product. With greater economic incentives to engage in drug product selection, pharmacists are more likely to choose to select lower-priced equivalent drug products for consumers, and a higher rate of drug product selection means more savings for Maryland consumers.

With the price information now available through advertising, the marketplace should work to ensure that pharmacists pass on to consumers a large portion of the cost savings. Indeed, a recent University of Florida study indicates that, although Florida does not require pharmacists to pass on all wholesale cost savings, approximately 90% of that savings is passed on to the consumer.

The new Maryland law also provides for a change in the formulary system to be used by pharmacists. The Maryland law now provides that a formulary based on the FDA's list of therapeutically equivalent drug products or other additional therapeutic equivalents listed by the Department of Health and Mental Hygiene be used by pharmacists engaging in drug product selection.

I realize that there is some confusion about the Maryland formulary at this time. Once the FDA finalizes its drug list, this problem should be alleviated.

The FTC recommended the use of a positive formulary based on the FDA drug list for several reasons. Studies indicate that higher rates of drug product selection are associated with states that establish drug formularies. And the study conducted for the FTC showed that four times as many pharmacists preferred a positive formulary as preferred a negative formulary.

The opinions of physicians and other professionals, and objective measurement indicate that pharmacists are qualified to select drug sources competently and efficiently. They

These remarks represent the views of a member of the Federal Trade Commission staff. They are not intended to be, and should not be construed as, representative of an official Commission policy.

have, of course, been selecting drug sources for generically-written prescriptions for years. However, since a relatively small but significant percentage of chemically equivalent drug products may not be therapeutically equivalent, the FTC, in drafting the model act, chose to supplement pharmacists decision-making by recommending the use of a positive formulary based on the FDA list of therapeutic equivalents. I should note that 80% of the generic-name products designated by FDA as therapeutic equivalents are made by the same PMA companies who make most of the brand-name products.

The third change in the Maryland law concerns the pharmacist's professional liability for engaging in drug product selection. Under the law, the pharmacist who selects a drug product incurs no greater liability than he or she would have incurred in dispensing the brand-name product prescribed. Thus, the standard of liability remains the same for drug product selection as it is for brand-name dispensing. For example, the pharmacist is responsible for recognizing visible defects in drug products. This same standard applies whether he or she is dispensing the brand name drug prescribed, filling a generically-written prescription, or engaging in drug product selection.

Various studies show that pharmacists are concerned about the liability risks of product selection and that many are therefore deterred from selecting drug sources as often as they would otherwise. Yet our own computer-assisted search of reported cases and the responses of every brand-name manufacturer, trade association, and pharmacy insurer we contacted failed to identify any instance in which a pharmacist has been held liable for legally substituting a lower-cost generic or for selecting the source used to fill a generically-written prescription. Although pharmacists may be exercising their professional judgment more often in selecting the drug source, the nature of their activity remains the same as that involved in filling generically-written prescriptions — an activity pharmacists have engaged in for years without incident. Therefore, we believe that statements concerning liability have been greatly exaggerated.

The addition of the liability provisions to the Maryland law should serve to reassure pharmacists concerned about the legal ramifications of drug product selection that they will not be held to an excessive standard of liability.

Even the best product selection law will take time to become fully effective, as consumers and health professionals are informed of the benefits of generic drug products. The Maryland law provides that the Maryland Department of Health and Mental Hygiene assess the need for public education on drug product selection and provide for that education if appropriate. Pharmacists can play a key role in educating consumers about the advantages of drug product selection. Half the pharmacists we surveyed said that drug product selection had a positive effect on their relationship with customers. Only 3.5% said it had a negative effect. Our study also indicates that pharmacists engaging in drug product selection are spending more time with their patients. This increased communication affords the pharmacist the opportunity to help educate the consumer about cost-saving generic equivalents.

The Maryland drug product selection law presents an exciting opportunity for pharmacists — greater financial returns, a rise in professional status, and increased responsibility in the patient's drug therapy regime. With the new changes in the Maryland law — the elimination of the total cost-savings pass-on, the use of the FDA drug list, and the pharmacist liability provision — some of the former barriers to drug product selection have been eliminated. We hope that with this new act, Maryland will see a greater instance of drug product selection and more total savings on consumers' drug bills in the coming year.

Thank you again for giving me the opportunity to speak to you this evening.

The New Drug Product Selection Act

Effective July 1, 1979

Article 43 — Health
Section 273A

(1) In filling a prescription for a brand name product, a pharmacist may dispense a different, lower cost, drug product of the same dosage form and strength if the different drug product is generically equivalent.

(2) The pharmacist may not select an equivalent drug product unless its price to the purchaser is less than the price of the prescribed drug product.

(3) Any pharmacist who selects an equivalent drug pursuant to this section incurs no greater liability in filling the prescription by dispensing the equivalent drug product than would be incurred in filling the prescription by dispensing the brand name drug prescribed.

The Department of Health and Mental Hygiene shall establish and maintain a drug formulary of equivalent drug products. The formulary:

(i) Shall list all drug products that the Commissioner of Food and Drug, United States Food and Drug Administration, has approved as safe and effective, and has determined to be therapeutically equivalent;

(ii) shall list all drug products that were not subject to premarketing approval for safety and effectiveness under the Federal Food, Drug and Cosmetic Act, are manufactured by firms meeting the requirements of that Act, are subject to Pharmacopoeial standards adequate to assure product quality, and have been determined by the Commissioner of Food and Drugs to meet any other requirements necessary to assure therapeutic equivalence; and

(iii) May list additional drug products that are determined by the Department to meet requirements adequate to assure product quality and therapeutic equivalence; and

(2) Provide for revision of the formularies as necessary but not less than every 6 months; and

(3) Provide for distribution of the formularies and revisions to all pharmacies and prescribers licensed in this state and to other appropriate individuals.

Department of Health and Mental Hygiene shall:

(1) Assess the need for public education regarding the provisions of this section;

(2) Provide for that education if appropriate; and

(3) Monitor the effects of this section periodically.

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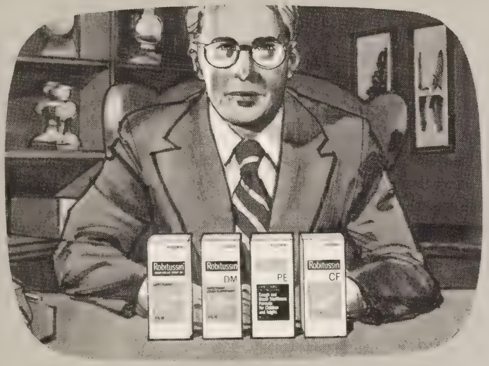
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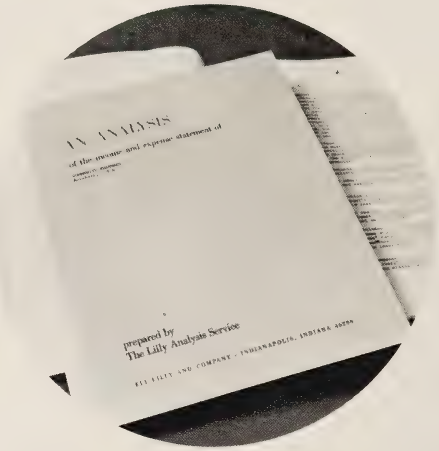
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LETTERS

The October 1979 edition of the Maryland Pharmaceutical Association Newsletter carried a revision to the previous D.P.S. Law which now no longer requires a physician to indicate "dispense as written" in his or own handwriting. A pre-printed statement expressing no substitution requires pharmacists to dispense the brand name of the drug.

It is quite evident to me that this present law was written for the sole purpose of protecting and pleasing the prescribing physician, and most assuredly did not have the interest of the pharmacist in mind.

It is additionally evident that little or no homework was done prior to the writing and subsequent passing of the current D.P.S. Law. There are entirely too many questions concerning this law which remain unanswered. For example:

1) How are pharmacists to interpret a prescription which is pre-printed with "Do Not Substitute" and beneath this statement appears "Substitution Permissible" when neither statement is checked, circled, or initialled?
2) How are pharmacists to interpret a prescription which is pre-printed with "Do Not Substitute" preceded by a box to check, which is not checked?
3) How are pharmacists in the State of Maryland to interpret out-of-state prescriptions from physicians utilizing the double signature line, when, to the best of my knowledge, this is not recognized as a legal means of preventing substitution in this state?
4) How are pharmacists to interpret a prescription which is provided to physicians by drug manufacturers, imprinted with "Do Not Substitute", and which specifies a particular brand name of that company? Why is this practice permitted when pharmacists are not allowed to provide physicians with prescription blanks bearing their store's advertisement? I fail to recognize the difference.
5) How are pharmacists to interpret a prescription which is imprinted with "Do Not Substitute" when the customer requests a generic equivalent?
6) How many physicians do you think *really* care about substitution, when in fact, some of the busiest prescribers in our area write practically every prescription generically, but the prescription blank is imprinted with "Do Not Substitute"? How do you *not* substitute Ampicillin, Tetracycline, Prednisone, Meprobamate, Erythromycin, or Penicillin-VK?

In discussing this problem with other pharmacists, I have been provided with what I believe to be the most logical and sensible approach and solution. Any statement written on a prescription blank pertaining to substitution must be a *conscious act* on the part of the prescribing physician. "Conscious act" is certainly the key phrase here, and I feel it imperative that the newly revised D.P.S. Law be changed in such a manner as to require a hand-written statement by the physician, requesting that a generic drug not be dispensed.

I do not know about the rest of the pharmacists in Maryland, but I simply do not have time to telephone every physician who uses a pre-printed "Do Not Substitute" prescription blank. Additionally it is quite common for customers to present these prescriptions at a time when the physician cannot be contacted. In this case I have one of two alternatives, neither of which appears to be good business practice.

blank. Additionally it is quite common for customers to present these prescriptions at a time when the physician cannot be contacted. In this case I have one of two alternatives, neither of which appears to be good business practice.

1) I can inform the customer that I do not have the drug. He or she will most likely have it filled elsewhere.
2) I can suggest ordering the drug which will take an extra day or two. Being in Hagerstown, if there were to occur on a Friday evening, I would not be receiving another drug order until the following Tuesday.

In either of the above two situations I have undoubtedly lost both the prescription and the customer to another store.

To cite just one example of what the current D.P.S. Law is forcing Maryland pharmacists to do, let us consider inventory. In order to fully comply with the law as it is written, I must stock Sumycin, Achromycin-V, Panmycin, Robitet, Cyclopar, and Tetracyn. Even if one of these brands of Tetracycline is used for all generic prescriptions, there still remain at least five additional brands which I must stock. Multiply this by perhaps 10 or 20 other drugs which fall into the same category, and I am faced with an intolerable situation, not to mention the cost involved in maintaining such an unnecessary inventory.

To illustrate how much of an "unconscious act" it is on the part of physicians using pre-printed "No Substitution" blanks, permit me to cite one more example. I had a particular reason to telephone a local physician and requested permission to substitute a generic drug. I was not the least surprised nor shocked when he said to me, "I don't give a damn what you use." This is a direct quote!

I always have been and remain extremely curious as to exactly what we are afraid of. Would it not be enlightening if just one time the pharmacists in the State of Maryland stood on common ground and fought for what they know is right? Instead we sit on our hands looking up in awe to the monuments we have erected honoring the State Department of Health, Blue Cross, P.C.S, Medimet, and the A.M.A.

If I sound somewhat embittered and frustrated it is because I am. I am very pessimistic when it comes to any change in the D.P.S. Law, other than to make it more inconvenient and unreasonable. I am confident that we will continue to receive new and updated state regulations, being told what to do, how to do it, and when to do it. I am similarly confident that whenever and wherever pharmacists get together this law will be discussed; when pharmacists convene at regional meetings this law will be argued; and at every state convention, for many years to come, we will complain. By that time, however, something new will be shoved down our throats, and we will be forced to swallow.

William C. Chatkin, R.Ph.
Hagerstown, Maryland

The Fall Regional Meeting is an "Unconventional" Success

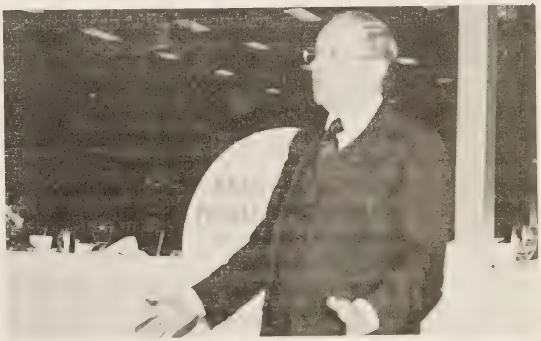
Picture Courtesy
Paramount Photo
Service

The 1979 Fall Regional Meeting held October 25, 1979 at the New Baltimore Convention Center was an "unconventional," but unqualified success.

MPhA President Ronald Lubman addressed the meeting on the subject of third parties and the increase of violence in pharmacies. At right is Phil Cogan, Speaker of the House.

Marty Mintz, Executive Director of the Maryland Chapter of the American Society of Consulting Pharmacists (left), presents a check to Charles Spigelmire, Treasurer of the Pharmacists Legal Defense Fund (right).

Squibb representatives Kevin Connelly (left) and Barry Howie (right) present MPhA Chairman of the Board, Stanley Yaffe, with the Past President's Award.

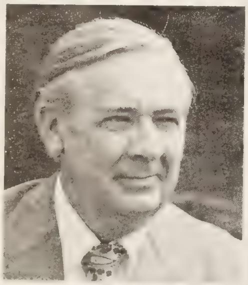


Richard Brown of the Dale Carnegie Courses presented an outstanding presentation on "The Cycle of Becoming — Are You Prepared for the 80's?"

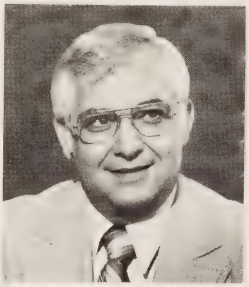
Our best friends are our severest critics and our greatest assets.

Meet our 1979 Pharmacy Consultant Panel.

Donald A. Dee, R.Ph., Exec. Sec.,
Minnesota Pharmaceutical Assoc.
Minneapolis, Minnesota

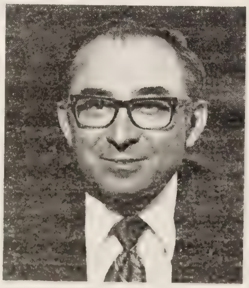


Benjamin F. Cooper, Ph.D
Dean, School of Pharmacy
Auburn University, Auburn, Ala



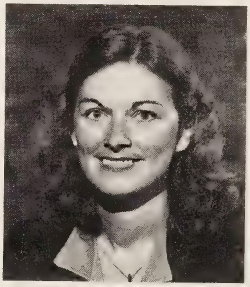
Nelson E. Taylor, R.Ph
Community Pharmacist
Nampa, Idaho

Arthur Koorhan, R.Ph., Div. V.P.,
Pharmacy Operations, Cunningham
Drug Stores, Detroit, Michigan



David Zilz, R.Ph., Dir
Pharmacy and Central Service,
University of Wisconsin Hospitals
Madison, Wisconsin

Don W. Arthur, R.Ph
Community Pharmacist
Buffalo, New York



Marianne Ivey, R.Ph
Clinical Pharmacist
University of Washington Hospitals
Seattle, Washington

Milton H. Miller, R.Ph
President, Petty Drug Company, Inc
Little Rock, Arkansas

Gary Thudium, R.Ph
Community Pharmacist
Vinton, Iowa

Fred M. Eckel, R.Ph., Assoc
Professor of Hospital Pharmacy
Chapel Hill, N.C

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Their advice and counsel helps us serve you better in the expanding role of pharmacy.

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Report of the Speaker of the House

1979 Fall Regional Meeting

Philip Cogan
Speaker of MPhA House of Delegates

In order for an Association to progress as an organization, it is important that the membership have a clear understanding of the mechanism for the implementation of policy decisions. In the Maryland Pharmaceutical Association, policy statements, in the form of resolutions, are adopted by the House of Delegates, subject to interpretation by the Board of Trustees, and are implemented by the Board, the Committees and the Staff.

My intention today is to provide the membership of the Association with some specific feedback on the disposition of the policy resolutions which were adopted by the House of Delegates which met in conjunction with the Association's Annual Convention in June, 1979 at Tamiment in the Poconos.

I will briefly summarize the intent of the resolution and then describe the followup activity that occurred as a result.

As many of you will recall, there were seven important resolutions adopted. Resolution Number One commended the Eli Lilly Company for their extensive public relations efforts on behalf of pharmacists through the use of television and radio announcements that have now been distributed to the media throughout Maryland. The staff has sent a copy of the Resolution with a congratulatory letter to the Professional Affairs personnel at Eli Lilly responsible for this excellent program.

Resolution Number Two concerned drug products that are being marketed in Maryland without FDA approval when required. It directed the Industry Relations Committee of the Association to look into this situation and report to the Membership on this matter. It further recommended to the Formulary Committee that a policy be adopted which would exclude companies engaged in such practice from the Maryland Formulary and further directed the Legislative Committee to consider legislation on this matter.

The Industry Relations Committee has adopted this topic as a long term project and has corresponded with the FDA. Paul Freiman, Chairman of the Maryland Formulary Committee has communicated with the office that the Committee's adoption of internal policy has carried out the recommendation of the Resolution. Finally, the Legislative Committee has considered this matter and has concluded that legislation, at this point in time, remains unnecessary.

Resolution Number Three commended the growing sense of cooperation between the MPhA and other pharmacy organizations; particularly, the Maryland Society of Hospital Pharmacists. Staff sent a copy of the resolution to the MSHP with appropriate correspondence. This Resolution was noted at a meeting of the Board of Directors of the Society.

Resolution Number Four noted that the Association's centennial celebration is approaching and directed the appointment of a Committee to begin work on this project. President Ronald Lubman has appointed Past President Richard Parker to Chair the Centennial Celebration and Long Range Planning Committee of the Association.

Resolution Number Five calls for the Association to attempt to repeal or modify the mandatory price posting law. The Legislative Committee has adopted this project as a goal for the 1980 legislative session. Initial discussion with Maryland state legislators indicates that there is some support for this concept and the bill will be introduced.

Resolution Number Six called for the appointment of a Committee to investigate the feasibility of a Pharmacist's Prescribing Act. President Ronald Lubman has appointed Dr. Bonnie Levin to Chair this Committee and the Committee has met and begun to consider this matter.

Resolution Number Seven commended Radio Stations WCAO and WXYV for their continued support of pharmacy by airing the radio program produced by Charles Spigelmire for a record number of years. The Staff sent a copy of the resolution with a congratulatory letter to the station manager. Notice of the Association's action later appeared in a Plough Company Publication. Plough is the owner of the radio station.

One of my purposes in reviewing the activities that have occurred with regard to these resolutions, is to inform the membership of the Association that these policy decisions do not lie dormant after the Convention. While it may take some time to fully implement the intent of a resolution, and while time and change may dictate an occasional reassessment of policy, the Staff, Board of Trustees, and Committees of the Association are committed to carrying out the will of the organization as expressed through the policy making mechanism.

The Membership Committee says it's time to:

Sign up a Non
for these Asso

Vital Professional Information

The Maryland Pharmacist, the Association's official journal, recently won the Sandoz Medical Journalism Award for pharmaceutical publications. Published monthly, it provides members with interesting and informative material on a variety of topics. These include scientific and continuing education articles with self evaluation quizzes, Board of Pharmacy news, updates on state and national legislation and the latest news on Association affairs. Subscriptions to all Association regular publications are included in Association dues.

MPhA Newsletter — The newsletter provides you with the latest information available that directly affects your pharmacy practice. Changes in third party programs, new regulations or requirements from DEA, HEW, FDA, FTC, OSHA, state government and state agencies are quickly transmitted to Association members. This publication alone is well-worth your investment in Association membership. It provides you with the inside information on legislation, Medical Assistance Program and other agencies that directly affect you.

Special Pharmacy Mailings — When the need arises, the Association will send a "flash" report on a fast breaking event that is vital to pharmacy. These mailings are your first and best source for information and may also ask for emergency pharmacy activity.

Conventions and Meetings — The Association provides information to its members through the Annual Convention, two Regional Meetings, the Swain Seminar and the Simon Solomon Seminar on Pharmacy Economics. Continuing education programs are sponsored which appeal to a range of interests and practice needs. These business and professional meetings keep MPhA members informed and in constant contact with the events that shape the practice of pharmacy in Maryland.

Representation

State Government — Each session of the Maryland General Assembly requires a special effort by the Association on behalf of Maryland Pharmacists. The traditional success of the Association in this important area continues through the active involvement of the Association's lobbyist and the organized efforts of Association members. Using a "Who Do You Know" survey, the Association sets up a network of key pharmacists who can contact legislators in time of potential crisis at the call of the Legislative Committee. Constant vigil is required to protect the interests of pharmacists. This was demonstrated when Maryland recently became the first state to enact sections of the Model FTC Drug Product Selection act for the benefit of pharmacists.

Federal Government — Through its affiliation with the American Pharmaceutical Association, the MPhA offers members an active and united voice on national issues affecting the profession. Better cooperation among all pharmacy associations, both state and national has resulted in recent significant gains for pharmacists.

Other Health Care Professions — The MPhA fosters and encourages greater understanding and cooperation between health care professions. This effort has paid off for pharmacists in the area of state legislation through the formation of a health care lobbyist's forum.

Public Relations — The MPhA is aware of the power of public opinion and has represented pharmacy in this area. Ongoing projects include: news releases, radio and television exposure, National Poison Prevention Week and National High Blood Pressure Month activities, outdoor advertising, Science Fair awards, the regular radio show "Your Best Neighbor", prepared speeches and staff specialization in public relations. The Public Relations Committee, Committee on Professional Practices, and the Consumer Affairs Committee of the Association deal directly with public relations and consumer inquiries as part of the Association's continuing effort to improve the image of pharmacy.

Third Party Committee — The Association's Third Party Committee maintains constant dialogue with third party clearinghouses and insurance programs as well as the Medical Assistance program in Maryland. Through a series of liaison committees, the Association represents the interests of pharmacists in this vital economic area.

Other Arenas — The Maryland Pharmacy community includes the University of Maryland School of Pharmacy, seven local pharmaceutical associations, a student chapter, the Board of Pharmacy, the Maryland Society of Hospital Pharmacy, the Maryland Association of Chain Drug Stores and the Maryland Chapter of the American Society of Consulting Pharmacists and many more. The MPhA works closely with these organizations and also interacts with manufacturers, wholesalers as well as other agencies. Working with MSHP, the Association has helped to foster the Joint Committee on Pharmacy Technicians, and the Maryland Commission on Women in Pharmacy. The Association represents Pharmacists through membership in the State Chamber of Commerce, the Maryland Retail Council, and the other organizations.

Have them call us at (301) 727-0746 for details

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Fringe Benefits

Group Health Insurance — The MPhA's Blue Cross and Blue Shield Major Medical Health Insurance Plan offers members premium coverage at reduced group rates. Specially tailored to meet the needs of Pharmacists, the plan can include coverage for members, their family and their non-pharmacist employees. Widely accepted and recognized, this fringe benefit is proving to be a popular MPhA fringe benefit.

Pharmaceutical Protector Plan — This plan provides comprehensive coverage for your store and your professional liability. Through this program, malpractice insurance is also available for employee pharmacists.

Other Insurance Programs — Additional programs such as hospital indemnity, life insurance, workmens compensation insurance and retirement plans are available from the insurance programs of the MPhA and APhA. All of your professional and personal insurance needs can be met through the Association.

Special Group Travel Trips — Vacation in Aruba? How about Switzerland? The MPhA group travel trips offer fantastic values on exotic vacations. One of our best and most used fringe benefits!

Credit Collection — A nationwide system from the experienced I.C. Systems is available to MPhA members. Bad debts can be a sizeable problem for any businessman, but the I.C. System provides an efficient method for overcoming this problem.

Employment Service — The MPhA provides a free employment service to all fifth year pharmacy students in Maryland who are seeking employment. This successful service brings together prospective employers and newly graduating pharmacy students as well as practicing pharmacists who are seeking to change their employment. In addition, the classified advertisement section of the *Maryland Pharmacist* is also available as a free service to all members who are seeking other employment, or who wish to advertise any pharmacy related items.

Scholarship Awards — The MPhA awards the "Pharmacist of the Year" Award at the Annual Convention and maintains a special Scholarship Fund for pharmacy students. These and other honors for outstanding accomplishments and achievements by Association members are available.

USP/NF. State law requires that all pharmacies have the USP/NF. As a special service to its members, the Association has made arrangements to act as a distributor for this publication.

Practice Tools — The MPhA provides to its members special publications and practice tools that assist members in their practice. In recent years these have included: A Third Party Reference Chart, results of an employment conditions survey, the state's Cost of Dispensing a Prescription Survey, marketing auxiliary labels, red C stamps and patient release forms.

More Fringe Benefits — The MPhA continues to expand the fringe benefit program that it offers members and space does not allow a complete list. Contact the MPhA office with your suggestion or request.

The Personal Touch

A superficial description of the Association leaves out the most important benefit which the MPhA offers its members — the personal touch. Headquartered in Baltimore, the Association's home is the Kelly Memorial Building which also houses the B. Olive Cole Museum. The MPhA office staff stands ready to respond to the immediate needs of the members. Frequently, specific questions about pharmacy law or regulations are answered by telephone or personal visit. The MPhA can draw upon its legal counsel for specific advice. Because Maryland is an affiliated state, the MPhA can call upon the APhA for national resources whenever a problem demands.

The MPhA is a democratically run Association and members of the Board of Trustees are elected by popular ballot. In addition, policy decisions of the Association originate from the House of Delegates which represents recognized pharmacy organizations of the state. The MPhA has a number of standing committees and several task force committees which research specific areas of concern to all pharmacists. The MPhA structure allows for the most input from the profession into the policy decisions of the Association. The Annual Convention and Regional meetings offer each member an opportunity to meet with colleagues and discuss professional affairs. Through the years since 1882, the Maryland Pharmaceutical Association has remained flexible to the changes that have swept through the profession and, at the same time, has continued to be responsive to the needs of Maryland Pharmacists. Because of the participation of concerned pharmacists who are willing to work together for the benefit of all, the MPhA is, today, a strong Association with an impressive past and a bright future.

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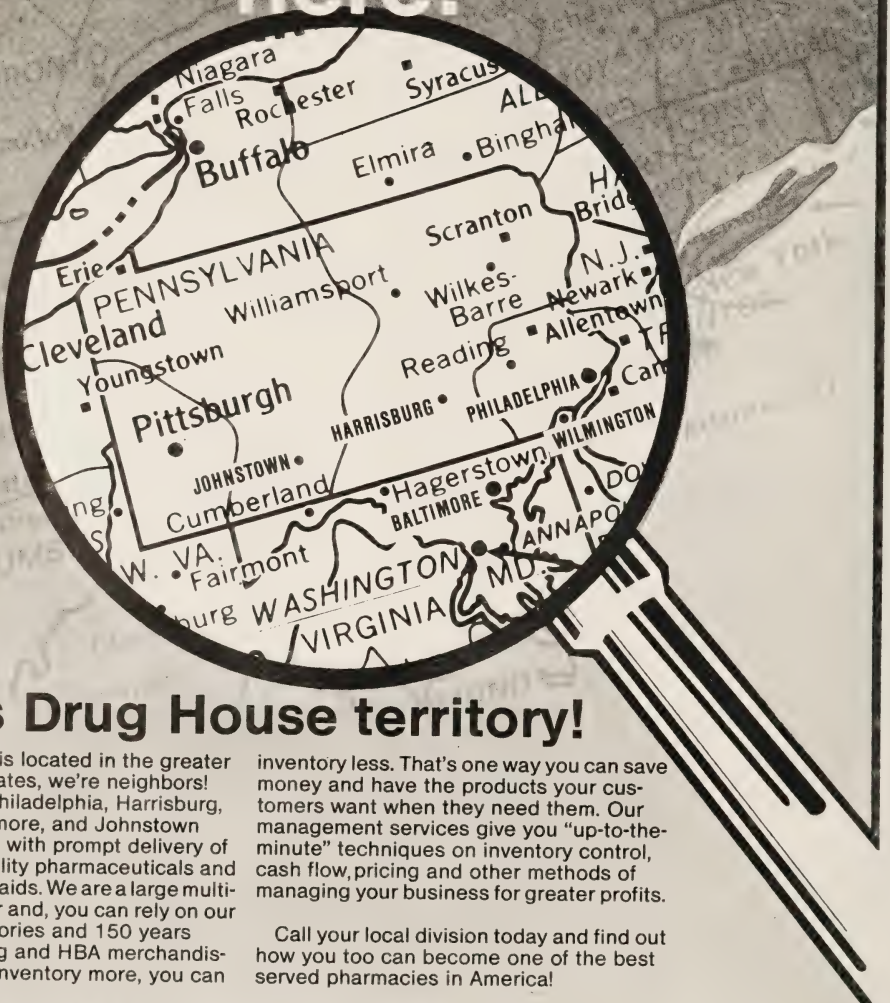
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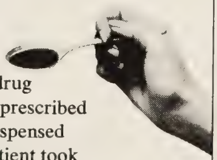

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Indications:

Streptococcus pyogenes (Group A beta hemolytic streptococcus) – Upper and lower respiratory tract infections, skin, and soft tissue infections of mild to moderate severity, where oral medication is preferred. Therapy should be continued for 10 days.

Alpha-hemolytic streptococci (viridans group)—Short-term prophylaxis of bacterial endocarditis prior to dental or other operative procedures in patients with a history of rheumatic fever or congenital heart disease who are hypersensitive to penicillin.

S. aureus—Acute infections of skin and soft tissue of mild to moderate severity. Resistant organisms may emerge during treatment.

S. pneumoniae (D. pneumoniae)—Upper and lower respiratory tract infections of mild to moderate degree.

M. pneumoniae – For respiratory infections due to this organism.

Hemophilus influenzae: For upper respiratory tract infections of mild to moderate severity when used concomitantly with adequate doses of sulfonamides. Not all strains of this organism are susceptible at the erythromycin concentrations ordinarily achieved (see appropriate sulfonamide labeling for prescribing information).

Treponema pallidum—As an alternate treatment in patients allergic to penicillin.

C. diphtheriae and C. minutissimum—As an adjunct to antitoxin. In the treatment of erythrasma.

Entamoeba histolytica—In the treatment of intestinal amebiasis.

L. monocytogenes—Infections due to this organism.

Establish susceptibility of pathogens to erythromycin, particularly when *S. aureus* is isolated.

Contraindications:

Known hypersensitivity to erythromycin.

Warnings:

Safety for use in pregnancy has not been established.

Precautions:

Exercise caution in administering to patients with impaired hepatic function. During prolonged or repeated therapy, there is a possibility of overgrowth of nonsusceptible bacteria or fungi. Surgical procedures should be performed when indicated.

Adverse Reactions:

Dose-related abdominal cramping and discomfort. Nausea, vomiting, and diarrhea infrequently occur. Mild allergic reactions such as urticaria and other skin rashes may occur. Serious allergic reactions, including anaphylaxis, have been reported.

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When Is A "Deal" Really A Deal?

By

Bruce R. Siecker, Ph.D.
Director, Pharmacy
Management Institute, APhA
Washington, D.C.

Introduction

Pharmacists are confronted daily with a variety of purchase decisions. One supplier is offering "2 free with 10"; another wants to give an "extra 10%" if the pharmacy will purchase three dozen. To qualify for a special purchase price, the pharmacy usually has to buy more stock than it normally would. The question for management, of course, becomes: "Am I better off buying the "deal" or will it cost me more in the long run because of the carrying costs?" To put it another way: When is a "deal" really a deal?

To answer this question requires an appreciation of the costs involved in ordering and stocking inventory, what buying terms are being offered versus what the pharmacy receives under normal conditions, and how management will treat the "deal" inventory in terms of pricing.

Why Deals?

Manufacturers and wholesalers offer additional discounts on selected items and other incentives to buyers to *increase sales* — by encouraging buyers to display more of the product — and to *shift storage* of inventory from the suppliers' facilities to the buyers. At other times, sellers may offer purchase discounts to move *excess inventory* through the channel of distribution and are therefore willing to reduce prices temporarily to escape significant holding costs. In other cases, a supplier simply wants to avoid having to shut down its production facility in cases where production is overrunning the supplier's storage capacity. Whatever the reason, however, the buyer — in this case a pharmacy — is given the option of purchasing a given amount of stock in return for a price consideration. The prudent pharmacy manager will decide a course of action based upon the pharmacy's needs, not the supplier's problems.

Types of Deals

Buying deals take essentially two forms. The first is to offer the buyer an opportunity to purchase a given amount of stock at a cost that is below the normal trade allowance. Suppose that a 3-ounce bottle of cough syrup is meant to sell to the consumer for $2.00. The supplier normally offers the product for sale to the pharmacy at $1.20, but is presently offering "an extra 10%" if the pharmacy will purchase four dozen at one time. The net cost to the pharmacy under this assumption would be $1.08; that is, 10% less than the normal cost. It is important to appreciate the difference between this method of arriving at the cost to the pharmacy and the mistaken notion that the 10% figure is based upon the manufacturer's suggested selling price. This second way of looking at the extra allowance produces a 20¢ reduction: 10% of $2.00 = 20¢, or a net cost of $1.00. An extra 10%, in this case, means $1.08, not $1.00!

The second major type of purchase deal is for the supplier to offer free goods to the buyer. Typical arrangements are to offer 1 with 6, 1 with 11, 4 with 3 dozen, and so on. To evaluate this type of offer, it is essential to convert the "discount in kind" into a percentage. The standard approach for converting a free goods offer into a percentage is to plug the appropriate numbers into the following formula:

Discount % = Free goods ÷ (Free goods + Base quantity) × 100. As an example, consider an offer of 6 free with 24. Six is the free goods figure and 24 is the base quantity. The effective percentage discount is 6 divided by (6 + 24) times 100, or 20%. Thus, this free goods offer produces the same amount of stock to be purchased at the same cost as offering 30 pieces at 20% less than normal cost.

Using this approach, it is easy to see why 1 free with 12 is the same offer as 2 free with 24 on a percentage basis. The difference, of course, is the preference one would have for the smaller quantity offer. This method also demonstrates why 1 free with 11, or 8.33%, is a better offer than 1 free with 12, or 7.69%. To properly evaluate all free goods offers against competing free goods offers and offers of a stated discount from normal cost requires the conversion of each free goods offer to a discount percentage.

Ordering and Holding Costs

There are two additional costs associated with inventory besides the actual cost of the product. They are ordering and holding costs. Ordering costs include the time spent preparing an order, transmitting the order to the supplier, and all costs associated with shipping, receiving, and placing stock into inventory. Holding costs include the cost of capital to finance inventory, staff time and expenses to maintain stock in a fresh, clean state, and insurance, tax, and product deterioration expenses.

Reprinted with permission from *Texas Pharmacy.*

Both types of costs are important, but tend to act in direct opposition to each other. Ordering larger quantities of stock at one time tends to minimize ordering costs, while increasing holding or carrying costs. The reverse is also true. Under normal conditions, a pharmacy will incur both costs and attempt to price inventory to recover the aggregate costs of ordering and carrying stock.

When a pharmacy considers buying offers, the proper focus is on holding cost, because the question is whether to increase the normal stock level to achieve an economy in the purchase cost. By far the most burdensome holding cost is the cost of capital — interest expense and the need to achieve a return on invested capital. The pertinent equation is whether the extra allowance offered by the supplier will "cover" or exceed the extra costs of carrying the stock for the time it will take to sell through the deal quantity.

To evaluate the situation a pharmacy manager needs to know (a) the discount being offered, (b) the pharmacy's normal purchase/payment cycle, (c) the product's unit demand (unit sales over time), (d) how much must be purchased to receive the discount, and (e) an estimate of carrying costs.

The way to calculate the discount has already been discussed. In most pharmacies the purchase/payment cycle is one month; that is, all purchases from a particular supplier during a given month are billed to the pharmacy at the end of the month. If purchased at the first of the month, stock will not have to be paid for until the end of the month. Under these conditions, a manager should be willing to invest in a month's supply of stock even when no special offer is being given.

By knowing the item's unit demand over time, the manager can determine how many weeks' supply the offer represents. Suppose that sales for XYZ cotton balls are 3 packages a week. The deal offers 2 free with 20. In reality, the pharmacy is being asked to purchase 22 units, or a 7.3-week supply of product. The pharmacy expects to sell 12 units in 4 weeks — roughly a month. So, the deal is asking that the pharmacy invest in 3.3 weeks' additional supply (also interpreted as "above normal supply") in return for a 9.09% discount.

The final ingredient to judge whether this deal makes good economic sense is the cost of carrying the additional inventory. Again, the pharmacy should be willing to purchase up to 4 weeks' supply under normal conditions. The cost of carrying inventory has been estimated to be between 2 to 3% per week. By dividing carrying cost into the discount, in this case 2 or 3% into 9.09%, a manager can approximate the breakeven point between carrying cost and discount. Using 2%, the breakeven is 5 weeks; the more conservative estimate based on 3% per week carrying cost produces a 3-week breakeven.

Once these numbers are known, a manager has a standard method for judging the worthiness of any purchase offer. The breakeven period in weeks is then added to the normal buying cycle. If this total exceeds the number of weeks' supply represented by the deal, then the deal is said to be favorable. If the total of breakeven period plus normal purchase cycle period is less than the deal quantity in weeks, the deal is *unfavorable*.

In the example, assuming a 2% carrying cost, 5 weeks + 4 weeks = 9 weeks. This number is greater than the 7.2 weeks supply represented by the deal. Under this assumption the offer is unfavorable. The more conservative estimate, using the higher carrying cost of 3%, produces 3 weeks + 4 weeks = 7 weeks versus 7.2 weeks. Here the calculation produces a judgment call: 7 versus 7.2 is very close. The choice rests on how accurately the manager knows unit demand. If there's any possibility that demand is underestimated, the deal is probably worth buying. If not, it is probably better to pass it up.

Because of the high cost of borrowing today, it is probably better to use the higher estimate of holding cost as the basis for such analysis. This approach attempts to minimize inventory investment and therefore holding costs. In this vein, it is a conservative posture. But keeping inventory levels down means that inventory turnover will be improved. In a period of tight money, this is the prudent approach.

Another example may be useful. Suppose a supplier is offering an extra 10% if the pharmacy purchases 2 dozen. Unit demand is 4 per week. Using 3% as the carrying cost produces a 3.3 week extra-purchase breakeven. Adding 3.3 weeks to the 4-week normal purchase cycle produces 7.7 weeks as the total. Again, the deal is for 24; the pharmacy sells 4 per week. The offer therefore represents a 6-week supply. Under the rules above, the deal is favorable. Further, if the pharmacy were confronted with this offer *and* the cotton ball offer above (which is "iffy") and can only afford to buy one or the other, then this deal is the better choice.

Extra Dating

If a supplier offers a discount with extra dating, that is, the pharmacy can delay paying for the goods for 30-180 days beyond normal, things get a bit more complicated. The common approach is to add in the extra dating period, expressed in number of weeks, before evaluating the offer. This method recognizes that the cost of capital produces the majority of carrying costs and that by delaying payment the pharmacy is forestalling most carrying costs for the period of the extra dating.

If the supplier offering the XYZ cotton balls were to add "30 days' extra dating," then the calculation using a 3% carrying cost becomes 7 weeks plus 4 weeks for the additional dating, or 11 weeks. Now the offer becomes decidedly attractive.

Although it is common to take extra dating deals without much thought, it should be recognized that not all carrying costs are eliminated. The best approach here is to purchase only those deals where the breakeven total far exceeds the required purchase supply, expressed as number of weeks. Better still, the acceptable deal should be acceptable even without figuring in the extra dating. To do otherwise means that scarce inventory dollars may not be available when extremely attractive offers do appear.

Saving Pass Through

If in purchasing a discount offer the manager decides to pass some of the savings through to the consumer by reducing the normal price, the analysis should be modified somewhat. The change to be made is based on whether or not the price reduction will stimulate greater unit demand. If so, the manager needs to have a firm estimate of what that demand will be. This estimate is particularly important when the breakeven calculation is very close to the purchase requirements. The normal unit demand figure should be replaced in the analysis with the unit demand that is known or expected by assuming the lower than normal selling price.

If unit demand under reduce price is *not known* with any degree of confidence, no change should be made in the analysis. In other words, the purchase offer should stand or fall on its own merits without regard for increased unit demand.

A Final Note

This approach to the evaluation of deals can provide a convenient way to judge all options in a uniform fashion. Moreover, it can be taught to any employee having purchasing authority, thus ensuring that all deals will be evaluated in the same way no matter who makes the decision. Any judgment calls can be referred to a central authority for a final decision. This method also helps to quiet the aggressive sales representative who refuses to take "no" for an answer. The numbers do not lie! Moreover, a supplier will probably think more highly of the manager who uses a standard method for assessing all deals over one who appears to decide based on whim, mood, or barometric pressure.

Several things are certain. The cost of carrying inventory is up. The need to maximize inventory turnover is evident in today's economy. By setting up a standard means of evaluating all deals, a manager will improve turnover.

By having a standard method of deciding when a "deal" is really a deal, inventory will be managed more effectively and the overall cost of operation — and hence charge to the public — will be contained more effectively.

calendar

Dec. 2 (Sun.) — MPhA BENEFIT DINNER THEATRE "FIDDLER" AT BURN BRAE — DEADLINE FOR RESERVATIONS IS APPROACHING — CALL OFFICE TODAY!!

Jan. 12-19 — ARUBA WITH MPhA — DON'T BE LEFT OUT — WINTER TRIPS ARE SELLOUTS

Feb. 10 (Sun.) — BMPA Banquet, Bluecrest (It's not too early to make up your table)

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USP DRUG PRODUCT PROBLEMS REPORT*

by the USP Convention, Inc.

12601 Twinbrook Parkway, Rockville, MD 20852 Tel. (301) 881-0666

Pink Discoloration

Several pharmacists reported noticing a pink color in some 2 ml vials of an injectable tranquilizer that should have been colorless. The firm conducted an investigation as follow-up to the DPPR reports from these pharmacists. It was revealed that the pink color was caused by a color present in the splicing material that had been used to join sections of rubber into rolls. The rolls of rubber are then cut into seals. It seems the splicing material was cut into the seals also. The firm instituted a 100% inspection of all seals in stock at the time, as well as all new shipments of these seals.

Particulate Matter in Disposable Enema

A military pharmacist reported that an unused enema kit returned by a patient contained black particulate matter floating in the liquid. He checked the other bottles in stock and found the same problem in 24 kits. After receiving this report, the firm also noted the problem in their reserve samples and proceeded to recall the lots involved. Investigation by the firm indicated that the problem was restricted to lots sold to the government because a different type of label had been used. The problem was tentatively identified as either glue migration or a breakdown of the polyethylene bottle caused by the heat utilized to apply the label.

Benzoin Mixup

An Iowa hospital pharmacist noted that Tincture of Benzoin Compound USP, purchased from a new supplier was a clear alcoholic solution unlike the normally dark, thick solution to which he was accustomed. He forwarded one sample to the FDA through USP, and the FDA then collected another sample through a local district office. Analysis showed that the bottles actually contained Tincture of Benzoin (not the compound). The company issued a recall by letter to the retail level.

Packaging Modified

A South Carolina military pharmacist reported through DPPR that the ampules of Epinephrine Injection in an insect sting kit were not labeled. The firm responded that the original printed label could have been scraped off as the ampule was removed from its protective paper tube. Based on the information from the pharmacist, the firm requested that their supplier make the tubes a fraction of an inch larger in diameter. This would permit easier removal of the ampules and provide less chance for the label to rub off.

Rubber Closure Changed

Nursing personnel in a North Carolina hospital returned three unopened vials of Bacteriostatic Sodium Chloride Injection USP, to the pharmacy upon noticing white flaky particles. After the pharmacist reported these observations to the DPPR, the firm inspected their reserve samples and found that these also contained white particles. The firm's investigation showed that the white particles originated in the rubber closure. The use of this type of rubber closure was discontinued and the firm plans to use an improved closure that should not have this problem.

New Lot Numbering System Implemented

Adding to the problem of look alike packaging for two strengths of Adenosine Phosphate, was the company policy of using duplicate lot numbers for both strengths. A pharmacist at a V.A. Outpatient Clinic reported that since his institution listed the number of the lot that was dispensed on all prescriptions, the duplicate lot numbers could contribute to a dispensing error. The firm reviewed the report and determined that a control numbering system which did not permit replication of numbers would be feasible. They indicated that a new system of batch identification would be implemented.

Contaminated Propylene Glycol

A Texas community pharmacist contributed to a recall of approximately one hundred pint bottles of Propylene Glycol USP, by reporting through DPPR that the product had an odor like shoe polish. After analyzing the sample submitted by the pharmacist it was determined that the product was contaminated with turpentine. An investigation revealed that turpentine had apparently been repackaged on the same day and with the same filling equipment as the Propylene Glycol in question.

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*This report covers some of the recalls, product improvements, and explanations to which the Drug Product Problem Reporting Program has contributed. The product and company names are omitted; and no reflection on any specific manufacturer, distributor, reporter, or product is intended or should be inferred from the case studies. It is hoped that these examples will indicate to the reader some of the problem areas where he or she may want to be alert; e.g.: package insert information, package designs, labeling, unusual or improper drug product appearance.

Dosage Error Corrected

A pharmacy resident used the DPPR WATS line to report a discrepancy he had noted in the insert for Calcium Gluconate Injection USP 10%. Under dosage and administration for children, the usual pediatric dose was listed as .125 ml instead of 1.25 ml. The firm replied that they had taken immediate remedial steps and that members of the label committee had been cautioned as to the seriousness of their responsibilities in proof reading labeling. A total of twenty-eight lots released over a one year period were recalled.

Antibiotic Recalled

Seven hospital pharmacists from New Jersey to California reported through the DPPR program that they had observed black particulate matter floating in a reconstituted antibiotic IV solution. The firm initiated a recall of several lots of the product after receiving these reports.

Label Change

The label on a digestive enzyme tablet erroneously listed the contents as capsules. After a Pennsylvania pharmacist reported this labeling error through the DPPR, the manufacturer responded in a latter that the department responsible for label preparation had been informed of the problem upon receipt of the report from USP and that steps were taken immediately to correct this error.

Testing Procedure Modified

Two reports concerning yellow discoloration in tubes of an anesthetic lubricant were received at USP from pharmacists. The firm replied that they had been testing the Polyethylene Glycol base at 55°C and only lots which did not discolor were released for use. However, exposure to excessive heat after processing and packaging was apparently still causing it to turn a slight yellow. The firm retested the PEG and found that it was yellowing at 65°C and not at 55°C. Therefore, they changed the test procedure to include heating the base to 65°C before releasing it for production. The firm hoped this would eliminate the discoloring problem.

Carton Incorrect

A California pharmacist telephoned the USP to report that the front panel on a box of Heparin Sodium Injection appeared to be incorrect. The box panel read "5000 USP units per vial" while the label on the vial read "5000 USP units per milliliter". This DPPR report prompted the manufacturer to review their records and they found that the lot in question had been formulated to contain 5000 USP units per ml, as correctly identified on the vial. The manufacturer recalled the lot with the incorrect front panel on the box.

Front and Back Labels Differ

A pharmacist telephoned the USP to report bottles with two different labels on the front and back. The front label specified Vitamin B_1 50 mg while the back label listed Vitamin B_6 25 mg. The pharmacist noted he had no way of knowing which label was correct. After the firm became aware of the problem, they recalled bottles containing Vitamin B_1, which had incorrect Vitamin B_6 labels, and bottles containing Vitamin B_6 which had incorrect Vitamin B_1 labels.

Missing Lot Numbers

A pharmacist found several bottles of Ferrous Sulfate Tablets without lot numbers on their labels and reported this problem to the USP. After the manufacturer received a copy of the report from USP, they assured the pharmacist that each lot is packaged, labeled and boxed separately and that it was safe to assume that the bottles without lot numbers belong to the lot listed on the outer box. The labels had been inadvertently missed by the checking system. The system was revised to prevent further occurrences.

I.V. Added

A Georgia hospital pharmacist reported to the USP that the label on vials of an antiemetic stated for IM use only, but the package insert included instructions for IV use. The FDA established that the vial labels were inaccurate and should have stated that it was for IM and IV use. The firm corrected the labeling mistake by including "IM and IV" on all subsequent lots.

Tablet Crystallization

Two pharmacists reported crystallization in the same lot of analgesic tablets. The Quality Control Laboratory at the firm determined that there was a slight crystallization of the salicylate content. Although the firm noted the tablets continued to meet all specifications and standards for safety and efficacy, they replaced any units from this lot held by their accounts because the tablets did not meet the standards of pharmaceutical elegance desired by the firm.

Disintegration Problem

A Kentucky hospital pharmacist reported through DPPR that a patient noted an enteric coated tablet was being excreted in the stool with only the outer coating dissolved. Investigation showed the lot failed to meet USP disintegration requirements for enteric coated tablets. The distributor recalled the problem lot.

Subpotent Conjugated Estrogens

A community pharmacist in Utah reported to the USP that a patient requested that she not be given the same brand of Conjugated Estrogen Tablets for her refill, because it took six tablets to achieve the same results as three tablets of the brand she had taken previously. The manufacturer analyzed the reported lot and found the product was 86.4% of the label claim. Other lots and strengths were then reassayed and the results indicated that the products were not stable and were falling below USP potency limitations prior to their expiration dates. The firm initiated a recall due to this subpotency.

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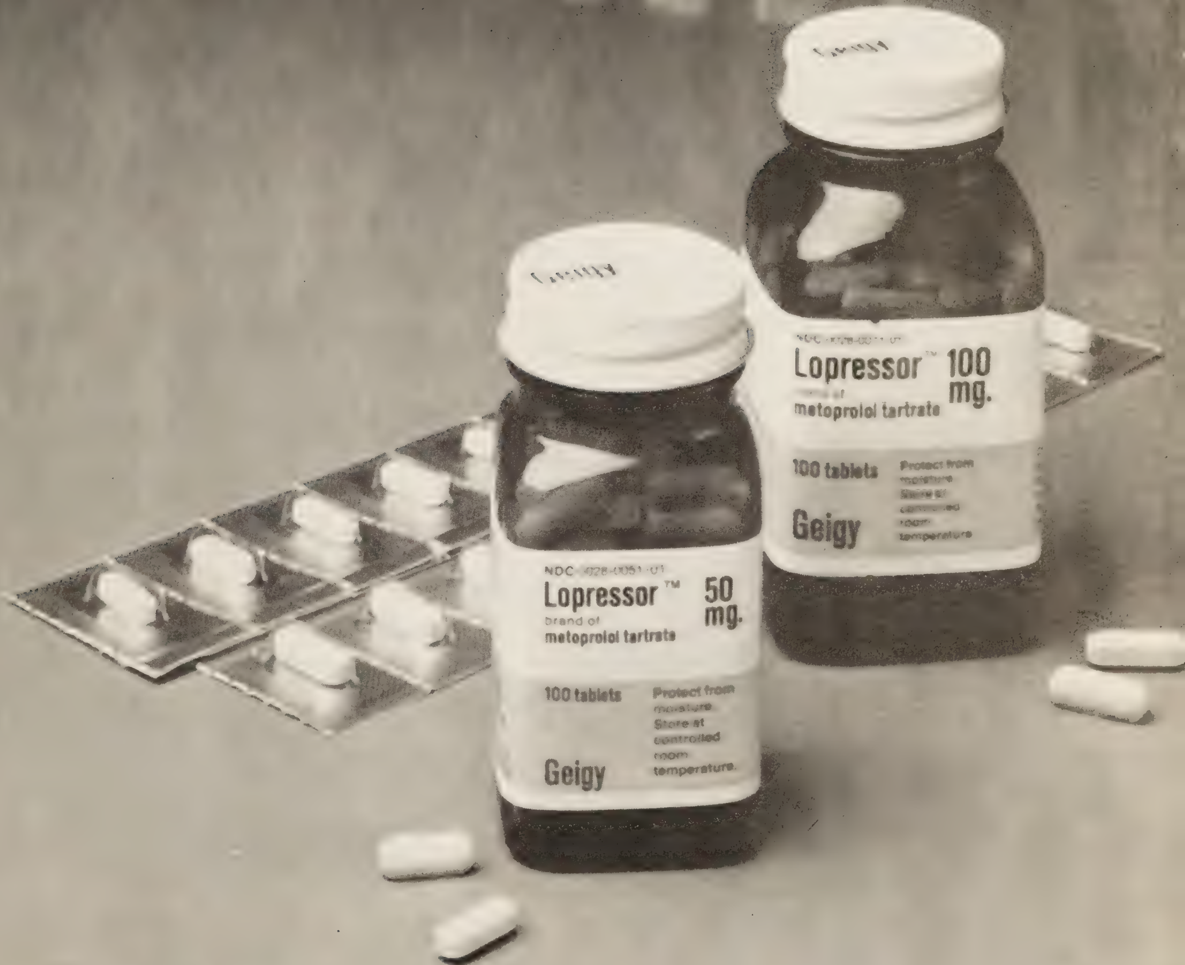
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Thank You

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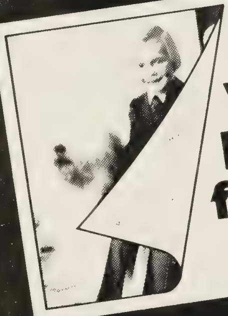

We use Kodak paper... for a good look.

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10501 Rhode Island Avenue
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In Washington, 937-5300
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Classified Ads

Classified ads are a complimentary service for members.

Available from the MPhA Office

— Notification for the patient under the Drug Product Selection Law.
— Heart Shaped Stickers — no charge
— "C" Stamps
— Information on the Blue Cross/Blue Shield Major Medical Health Insurance Program
— The Association's Employment Clearinghouse, helping pharmacists and employers find one another.
— Information on the Aruba Trip, January 12-20, 1980
— I.C. collection help
— Pharmaceutical Protector Plan — Comprehensive Insurance for your pharmacy
— Information on the NEW USP/NF on sale from MPhA.

For these and many other services, contact Sharon at the MPhA Office. (301) 727-0746.

WANTED

People who care — Share your knowledge of medicines with the people who use them the most. Donate a few hours to *Elder Ed.* Contact: Mattie Feinberg, Coordinator at the School of Pharmacy.

WANTED

The *Maryland Pharmacist* accepts articles on topics of interest to its members. Submit double spaced, typewritten articles to the Association office for consideration.

NOTICE

The Industry Relations Committee of the MPhA runs a "Day in the Pharmacy" project for manufacturer's representatives. New or veteran representatives are welcome to participate in this structured learning and appreciation experience. Contact Association office for details.

SITUATION WANTED

PHARMACIST. B.S. or Pharm.D., preferably with hospital experience and familiarity with medical records, for full or part time position on research project. For information and to apply, call D. A. Knapp, UMAB School of Pharmacy. 528-7613

PHARMACIST — Seeks full time employment in any part of Maryland. Experienced in hospital, retail and clinical pharmacy, would prefer hospital or prescription oriented pharmacy, but would also consider chain stores. Call Amanullah (301) 933-2780.

— WANTED —

Registered Pharmacists

Due to recent expansion the Rite Aid Corporation has full-time positions available in the general Baltimore-Annapolis area.

We offer –

- Competitive Salaries
- Co. Paid Blue Cross-Blue Shield
- Major Medical
- Life Insurance
- Individual Retirement Acct.
- Paid Vacations
- Paid Holidays
- Disability Ins.
- Advancement into Management Level Positions

For information please contact Jim Kirkwood R.Ph. Director of Professional Placement at 301-825-8355 (out of town call collect) or send resume to:

Jim Kirkwood
3110 Quail Hill Dr.
Midlothian, Va. 23113
804-744-2924

Announcement from:

Prescription Drugs Inc.

(301) 997-3550, 3551
9008 RED BRANCH ROAD
OAKLAND RIDGE INDUSTRIAL PARK
COLUMBIA, MARYLAND 21045

ADJUSTMENTS

When a pharmacy must pay a higher cost (more than the Red Book AWP) to the Drug Wholesaler, Prescription Drugs Inc. will make an adjustment to the pharmacy when the following requirements are met:

1. Pharmacy should send the tissue copy of the claim in question. The claim is checked by P.D.I. and the proper client notified and billed accordingly.
2. Pharmacy must have a purchase invoice from the Drug Supplier (naming the drug and price in question) to correspond with the purchase date on the claim form, and should be able to produce same to P.D.I. upon request.
3. All adjustments must be received by this office within 90 days after receipt of your check.

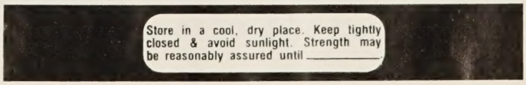
PAYMENT

P.D.I. should receive all claims by the 25th of each month to insure payment to the pharmacies within 10 to 14 days.

SPECIAL OFFER

Special offer from MPhA office

Auxiliary label for showing the expiration dates on Prescription container as required. Prices including postage, handling and tax are $8.50/1000 or $5.00/500. Call Sharon to place order at (301) 727-0746.



Store in a cool, dry place. Keep tightly closed & avoid sunlight. Strength may be reasonably assured until ________

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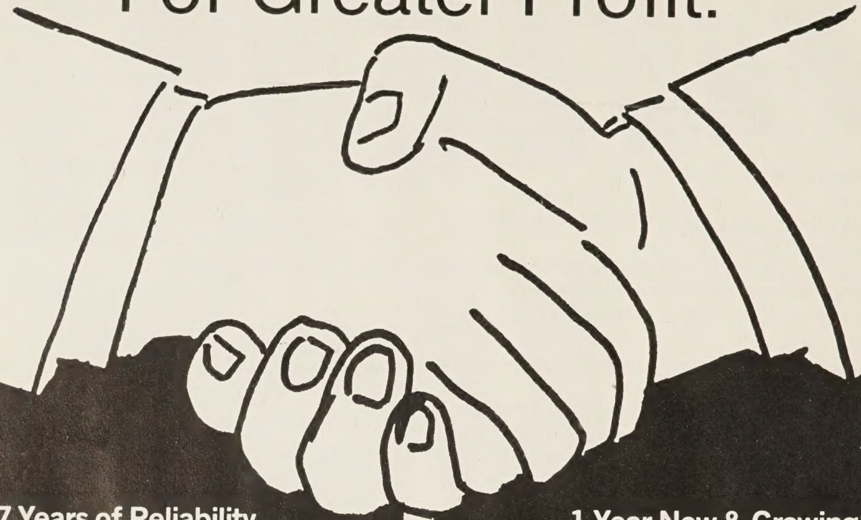

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